



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**PROTECTING OUR FUTURE—DEVELOPING A
NATIONAL SCHOOL SECURITY STANDARD**

by

Michael J. Donaghey

December 2013

Thesis Advisor:
Second Reader:

John Rollins
Lauren Wollman

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**PROTECTING OUR FUTURE—DEVELOPING A NATIONAL SCHOOL
SECURITY STANDARD**

Michael J. Donaghey
Assistant to the Special Agent in Charge, United States Secret Service
B.A., Brown University, 1992

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Author: Michael J. Donaghey

Approved by: John Rollins
Thesis Advisor

Lauren Wollman
Second Reader

Mohammed Hafez
Chair, Department of National Security Affairs

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ABSTRACT

This research examines the risk to schoolchildren posed by hostile intruders and the implementation of a national school security standard designed to mitigate this vulnerability and evaluates the utility of innovative perimeter security strategies modeled to reduce risk while preserving the requisite academic environment.

This project originated after the mass murder of 20 defenseless first-graders and six heroic faculty members at the Sandy Hook Elementary School in Newtown, Connecticut. A methodological analysis of existing school security policy was utilized to define the problem, to evaluate the variance between school communities, and to construct plausible alternative strategies. This project sought to enhance the understanding of risk management, offer strategic insight to decision makers and key stakeholders, and provide meaningful options for future school security planners.

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This type of violence is infrequent, but the extreme consequences evoke emotions similar to terrorist attacks in creating public fear, often leading to rash and reactive decisions. Many parents trust leaders in the academic community to care for their children and provide them a safe and secure environment. This expectation of protection has become a significant responsibility for school officials, and the establishment of a national school security standard, complete with guidelines and oversight, would help ease this burden and change the present school security narrative.

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TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	INTRODUCTION.....	1
B.	RESEARCH QUESTION	4
1.	Secondary Questions.....	4
C.	PROBLEM SPACE	5
II.	LITERATURE REVIEW	9
A.	RESEARCH METHOD	17
1.	Define the Problem	17
2.	Assemble Some Evidence	18
3.	Construct the Alternatives	18
4.	Select the Criteria	18
5.	Project the Outcomes.....	18
6.	Confront the Trade-offs	19
7.	Decide	19
8.	Tell Your Story.....	19
III.	SCHOOLS: OUR MOST CRITICAL INFRASTRUCTURE.....	21
A.	RECOGNITION OF THE DANGER.....	21
B.	NATIONAL CRITICAL INFRASTRUCTURE AND KEY RESOURCES	22
1.	Defining the Threat.....	25
2.	Assessing the Vulnerability	27
3.	The Consequence of Failure.....	28
C.	HOMELAND AND NATIONAL SECURITY IMPLICATIONS	31
IV.	BUILDING DEFENSE: ATTACK TYPOLOGY AND THE SANDY HOOK MASSACRE	35
A.	HISTORICAL OVERVIEW OF VIOLENT SCHOOL INCIDENCES ..	35
B.	TYPOLOGY OF ATTACKERS AND THE HOSTILE INTRUDER.....	38
1.	Rampage Shootings.....	38
2.	Mass Murder	39
3.	Terrorist Attacks.....	40
4.	Targeted Shootings	41
C.	CASE STUDY: THE SANDY HOOK MASSACRE.....	42
V.	INNOVATIVE SECURITY STRATEGIES FOR THE EDUCATION ENTERPRISE	45
A.	ASSESSING PRESENT STRATEGIES	45
1.	School Resource Officers.....	47
2.	Arming Teachers.....	50
3.	Routine Activities Theory.....	51
B.	ALTERNATIVE OPTIONS—PERIMETER DEFENSE	53
C.	SYSTEM COMPONENTS	56

D.	COMPARABLE STRATEGIES	58
1.	Government Facilities.....	58
2.	Financial Services.....	59
3.	Energy	59
VI.	OVERCOMING OBJECTIONS TO A NATIONAL STANDARD	61
A.	STANDARDS, STAKEHOLDERS, AND METRICS.....	61
B.	STATES RIGHTS AND INTERGOVERNMENTAL RELATIONS.....	63
C.	DISRUPTION OF THE LEARNING ENVIRONMENT	65
D.	FINANCIAL CONSIDERATIONS	66
1.	Federal Government.....	67
2.	State Government	67
3.	Local Governments.....	68
4.	Filling the Gap.....	68
VII.	RECOMMENDATIONS AND CONCLUSION.....	71
A.	RESEARCH FINDINGS.....	71
1.	Universal Threat Recognition.....	71
2.	Schools are Considered National Critical Infrastructure	71
3.	Psuedocommando’s and Terrorists.....	71
4.	The Status Quo—School Resource Officers and Armed Teachers	72
5.	Routine Activities Theory.....	72
6.	Interdependent Security Systems	72
7.	Performance Measurement.....	73
8.	Mandates and Partial Pre-emption	73
9.	Incremental Implementation	73
10.	Public Financing.....	74
B.	RECOMMENDATIONS.....	74
1.	Appoint the Department of Homeland Security as the Sector Specific Agency for the Education Facilities Sub-Sector	75
2.	Ensure 100 Percent Compliance with Emergency Operations Planning	75
3.	Every School in the Country Should Identify a Security Director	76
4.	Conduct the Requisite Vulnerability Assessments.....	76
5.	Increase Awareness Regarding School Security	76
6.	Establish a Minimum-Security Standard for all Schools.....	77
7.	Design Perimeter Security Systems into All New Construction	77
C.	CONCLUSION	77
	LIST OF REFERENCES	79
	INITIAL DISTRIBUTION LIST	89

LIST OF ACRONYMS AND ABBREVIATIONS

CIKR	critical infrastructure and key resource
DHS	Department of Homeland Security
EFS	education facilities sector
GAO	Government Accountability Office
GPS	Global Positioning System
HSPD	Homeland Security Presidential Directive
HSSP	Homeland Security Standards Panel
NERC	North American Electric Reliability Corporation
NIPP	National Infrastructure Protection Plan
NSSC	National School Safety Center
PDD	Presidential Decision Directive
SSA	sector specific agency

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EXECUTIVE SUMMARY

The existing security practices in many of our nation's schools are not designed to defend against the threat posed by an armed intruder. Schools are attractive and vulnerable targets primarily because they are powerful social symbols and typically lack operative levels of security. Fortunately, school shootings are rare occurrences, but the sensationalized narratives that follow create significant fear in both parents and students. This apprehension leads to disruptive discourse and policy initiatives that often create inequality and partiality.

Focusing on the threat from a hostile intruder, a methodological analysis of school security policy was applied. This research project defined the dilemmas associated with the status quo, examined inconsistencies in existing doctrine, and proffered alternative strategies designed to improve security arrangements. The project also endeavored to improve the understanding of the associated risk, increase the awareness of decision makers and key stakeholders, and provide meaningful options for future school security planners.

The results of the research revealed a collective threat acknowledgment at all levels of government. School security practices have been in existence for more than 50 years, and today most schools have written emergency operation plans designed to help protect students and faculty members. Additionally, the federal government has designated schools as national critical infrastructure sites due to the correlation between national security and education. The research confirmed that this recognition of vulnerability has not led to an appreciable level of security and current school security procedures are ineffective against hostile intruders unaffiliated with the schools they attack. These mass murderers, or "pseudocommandos," meticulously plan their operations, are always heavily armed, and attack without warning. Present school security practices propagated by government officials are inadequately modeled to defend against this attack typology.

Most schools have intrinsic vulnerabilities due to their predictable schedules and receptive environments. Furthermore, the consequences of a successful attack on a school

are considerable. These elements, as well as a principal emphasis on resilience and recovery rather than prevention and mitigation, increase the risk to targeted schools. This research emphasizes these dangers and introduces the transformation framework needed to improve school security. A focus on interdependent perimeter security systems, comprised of essential components, will allow responding law enforcement personnel the valuable time needed to disrupt an attack. Additionally, this confluence of security components can be appropriately deployed regardless of geographical location.

The establishment of a national school security standard, complete with guidelines and oversight, would convert the present school security narrative and emphasize strategic security planning for the education enterprise. Directing security professionals from component agencies of the Department of Homeland Security to work collaboratively with academic partners is an effective primary objective to ensure an equitable level of protection for all students and faculty.

The implementation of national standard directing school security efforts faces numerous challenges as it has the potential to disrupt the academic learning environment, impede intergovernmental relations, and project financial obligations to local school districts. Overcoming these challenges requires coalition support from a broad range of stakeholders as well as staunch approval from the executive branch of the federal government.

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I. INTRODUCTION

A. INTRODUCTION

The heartless attack on the Sandy Hook Elementary School should serve as a tipping point for school security policy. School shootings are a rare but terrifying occurrence and the sensationalized media accounts that follow create significant angst in many communities.¹ Most parents trust the education enterprise to teach their children in a safe environment. The expectation of safety is a significant burden for school officials and recent events suggest a considerable policy gap exists. The overreliance on armed guards is a concept with unquantifiable results. What is missing is the practical application of strategies designed to defend the external perimeter of a school and prevent the attack from occurring. This concept of utilizing physical and technological components aligned in an interdependent security system is prevalent in other industries and could be quickly modified to bolster the protection needed for school buildings.²

Some component agencies of the Department of Homeland Security, such as the United States Secret Service and the Federal Protective Service, routinely use perimeter security systems to fulfill their protective responsibilities.³ Some components of these systems are overt, such as bollards, fencing, and armed guards, while other components are more covert, such as CCTV, magnetic door locks, and panic alarms. All of the systems are devised to prevent an attack, and the interdependency of the selected components creates redundancies that provide decision makers with valuable time.

This research project focuses on the threat of mass murder perpetrated on a school community by a hostile intruder and promotes the strategic development of a policy that will offer capable defenses against both mass murders and terrorists. This emphasis is

¹ Ronald Burns and Charles Crawford, "School Shootings, the Media, and Public Fear: Ingredients for a Moral Panic," *Crime, Law and Social Change* 32,, no. 2 (1999): 147–168.

² Federal Emergency Management Agency, *Primer to Design Safe School Projects in Case of Terrorist Attacks and School Shootings, Buildings and Infrastructure Protection Series* (FEMA-428) (Washington, DC: Department of Homeland Security, 2012).

³ Shawn Reese and Lorraine H. Tong, *Federal Building and Facility Security* (Washington, DC: Congressional Research Service, 2010).

largely because 31 percent of all mass murder attempts in this country occur at primary and secondary educational facilities.⁴ School shootings, such as the attack on the Sandy Hook Elementary School, are considered “acts of terrorism without an ideological core.”⁵ Unlike school violence perpetrated by students, the mass murder of children by an offender unaffiliated with the school devastates entire communities and indirectly creates panic throughout the nation.

Additionally, understanding the perpetrator’s motivation is difficult as most assailants fitting this category take their own lives upon the arrival of law enforcement officers thereby limiting comprehension of their motivation.⁶ The necessity to delay and disrupt the mechanics of an attack should begin with a defended perimeter that provides valuable time for both decision makers at the school and responding law enforcement.

Presently, there are approximately 130,000 schools in the United States responsible for educating nearly 55 million children, nearly 20 percent of the population.⁷ Additionally, there are approximately 14,000 school districts with administrative personnel responsible for developing and implementing policy.⁸ Some of these institutions have a high level of security, while others have none. This divergence creates inequality among students and teachers. Without national security standards, economic inequality will become the predominant variable permitting affluent school districts to offer students a safer learning environment and faculty members a more secure workplace. This project focuses on the public education system in the United States with an emphasis on securing often-defenseless elementary schools. The research

⁴ Jim Powell, “What Should You do if You’re Threatened by a Mass Murderer?” *Forbes* September 4, 2013, <http://www.forbes.com/sites/jimpowell/2013/09/04/what-should-you-do-if-youre-threatened-by-a-mass-murderer/>.

⁵ Jonathan Fast, *Ceremonial Violence: Understanding Columbine and Other School Rampage Shootings* (New York: The Overlook Press, 2008), 333.

⁶ Glenn W. Muschert, “Research in School Shootings,” *Sociology Compass* 1,, no. 1 (2007): 60–80.

⁷ Center for Education Reform, “K-12 Facts,” last modified 2012, Center for Education Reform, <http://www.edreform.com/2012/04/k-12-facts/>.

⁸ Ibid.

demonstrates that elementary schools lack the most security as most districts focus their attention on the middle school and high school populations.⁹

Vulnerabilities often exist at private schools and institutions of higher learning as well but resources are more available to manage risk. Increases in private school enrollment following school shootings demonstrate that parents seemingly assume tuition payments translate to safer classrooms.¹⁰ Additionally, schools in rural settings may be disadvantaged by delayed law enforcement response times furthering the need for a security system designed to delay the onset of an attack.¹¹

The federal government recognizes the inherent vulnerabilities associated with most schools and has allocated financial resources to state governments through grant programs offered by both the Department of Homeland Security and the Department of Justice.¹² Many of these grant programs help school districts pay for armed school resource officers. Other grant programs require school administrators to complete a vulnerability assessment of their school building prior to applying for the desired funding.¹³ Additionally, the federal government offers notional assistance through the publication of reports and best practice guides. This research project investigates the need for the Department of Homeland Security to make the prevention of school shootings a homeland security policy priority, similar to border security, cybersecurity, and airport security.

The overall intent of this research project is to examine the need for a national school security standard while evaluating the existing school security practices, the attack typologies, the intrinsic and extrinsic risk, and the sometimes-indifferent academic

⁹ Brad A. Myrston, "Public Perceptions of School Resource Officer (SRO) Programs," *Western Criminology Review* 12,, no. 3 (2011).

¹⁰ Rahi Abouk and Scott Adams, "School Shootings and Private School Enrollment," 2010, University of Wisconsin, Milwaukee, https://pantherfile.uwm.edu/rabouk/www/School_shooting_note-2.pdf.

¹¹ *School Safety in the 21st Century: Adapting to New Security Challenges Post 9-11* (Chicago, IL: National Strategy Forum, 2004), School Security, http://www.schoolsecurity.org/school_terrorism_NSF.pdf.

¹² Cheryl K. Chumley, "Obama Shifts \$45 Million for Armed Cops in Schools—A La NRA," *The Washington Times*, September 30, 2013.

¹³ U.S. Department of Education, *A Guide to School Vulnerability Assessments: Key Principles for Safe Schools* (Washington, DC: Office of Safe and Drug Free Schools, 2008).

culture. This research project presents a strategic policy proposal to help protect schools from armed assailants who are intent on mass murder and organized terrorists who target schoolchildren.

Historically, hostile intruders determined to mass murder children account for only 25 percent of the attacks on all schools in the United States.¹⁴ Admittedly, students directing their rage toward their peers or a faculty member commit most school shootings. Previous government studies have provided insight and direction to administrators, helping them defend against this “insider” threat.¹⁵ Unfortunately, there is a lack of information available concerning the threat posed by adult assailants focused on attacking schools. The 2012, attack on the Sandy Hook Elementary School and the recently thwarted attack on a school in a suburb of Atlanta, Georgia emphasize the nature of this unpredictable danger.¹⁶ Lastly, this research illustrates the economic and tactical benefit of a perimeter security system designed utilizing interdependent components and implemented to provide law enforcement with the precious time needed to respond to a violent school encounter.

B. RESEARCH QUESTION

Could a national school security standard make America’s education system safer?

1. Secondary Questions

- What would the design and implementation of a national school security standard entail?
- How could local school districts and state governments with constrained resources implement this standard?

¹⁴ Muschert, “Research in School Shootings,” 60–80.

¹⁵ U.S. Secret Service and the U.S. Department of Education, *The Final Report and Findings of the Safe School Initiative: Implications for the Prevention of School Attacks in the United States* (Washington, DC: U.S. Secret Service and the U.S. Department of Education, 2002).

¹⁶ Catherine E. Shoichet and Tristan Smith, “Police: Gunman Wielded AK-47 Inside Georgia School; No One Injured,” *CNN*, August 20, 2013, <http://www.cnn.com/2013/08/20/us/georgia-school-gunshots/index.html>.

C. PROBLEM SPACE

The existing security practices in many of our nation's schools are not designed to defend against the threat posed by an armed intruder. Schools are attractive targets primarily because they are powerful social symbols, and they typically lack the levels of physical security commonly found at airports, government buildings, and military institutions.¹⁷

Most schools are welcoming environments intended for academic and social development. Unfortunately, this accessibility provides great opportunity for intruders with malicious intentions.¹⁸ Educators possessing limited security acumen and constrained budgets are tasked with defending their domain by merely locking doors and sheltering their students in place.¹⁹ This standard practice may be an effective initial procedure, but it fails to meet the expectation of security held by most parents.²⁰

The ineffectiveness of this security measure was most recently demonstrated during the attack in December 2012 on the elementary school in Newtown, Connecticut. Upon arriving at the school's front entrance and encountering a locked door, the heavily armed intruder simply used his weapon to shoot out the closest panes of glass.²¹ This effortless action defeated the existing security plan in its entirety, providing the assailant with direct access to defenseless teachers and students. The existence of physical and structural security measures at the Sandy Hook Elementary School would have impeded this attack, increasing the opportunity for responding law enforcement officers to successfully engage and defeat the assailant.

¹⁷ Michael Dorn and Chris Dorn, *Innocent Targets: When Terrorism Comes to School* (Macon, GA: Safe Havens International, 2005).

¹⁸ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

¹⁹ Hanover Research, *Best Practices in School Security, Prepared for School XYZ* (Washington, DC: Hanover Research, 2013).

²⁰ Associated Press, "Newtown Parents Seek More Focus on School Security," *The New Haven Register*, May 16, 2013, Highbeam, <http://www.highbeam.com/doc/1A1-3e1fe2749fb34bb986351b629dedf806.html>.

²¹ Connecticut Fusion Center, *Sandy Hook Elementary School Shooting Incident Summary*, Connecticut Intelligence Center (Hartford, CT: State of Connecticut Intelligence Center, 2012).

Although a rare occurrence, attacks like the one at the Sandy Hook Elementary School have failed to produce meaningful, results-based discourse regarding the security of our nation's schools. These types of attacks overwhelm local communities and indirectly create panic throughout the country.²² The national significance of mass casualty events like the attack on the Sandy Hook Elementary School is underscored by the resources allocated for recovery and the attention paid by pundits and politicians. Following this attack, vigorous debate ensued regarding gun rights and mental health registries, with little focus on school security. The federal government offered school districts additional security recommendations as well as grant funding for school resource officers, school psychologists, and social workers.²³ Federal grant dollars with an expiration date often fund the school resource officers, thus limiting their permanence and long-term usefulness.²⁴ Leaders missed an opportunity to focus national attention on the necessity of physical security practices designed to harden vulnerabilities and defend against perimeter intrusion.²⁵

The purpose of this research is to investigate whether the implementation of a national school security standard would make America's education system safer. This proposal will focus on publically funded primary schools due to that population's high vulnerability. This research will also focus on defending against external threats, such as those posed by school related mass murder and organized terrorist attacks, rather than on attacks perpetrated by students. The argument for standardization serves to balance inequality between rural and/or under privileged and urban and or/affluent school districts.²⁶ The status quo creates an environment wherein urban schools are often safer than rural schools due to quicker response from law enforcement and a pervasive culture

²² Burns and Crawford, "School Shootings," 147–168.

²³ White House, "Now is the Time; the President's Plan to Protect our Children and our Communities by Reducing Gun Violence," January 16, 2012, White House, <http://www.whitehouse.gov/issues/preventing-gun-violence>.

²⁴ Sara K. Satullo, "Bethlehem Area School District Hopes Grant Can Restore School Resource Officers," *The Express-Times*, May 19, 2013.

²⁵ Keven Marier, "The 5 D's of Outdoor Perimeter Security," *Security Magazine*, March 5, 2012.

²⁶ Jason P. Nance, "School Security Considerations after Newtown," *The Stanford Law Review*, 65, no. 103 (2013).

of indifference toward security. Additionally, affluent school districts may be able to afford security improvements while resource constrained districts cannot. This project will recommend affordable primary strategies to help negate this inequality.

A secondary objective of this research will be to illustrate the effectiveness and relevance of physical security procedures presently utilized within the framework of the *National Infrastructure Protection Plan*.²⁷ There is already an effective template containing target hardening strategies for other critical structures that could be modified to function within the educational community and adequately address concerns of cost and appearance. Building a consensus and receiving the approval of affected stakeholders will be essential for successful implementation.

The majority of research available on this subject does not advocate for structural security enhancements at schools chiefly because of esthetics, costs, and the concerns of policymakers and school administrators regarding changing the desired culture of a welcoming environment to a fortified facility. This research will explore the practicality of a national school security standard emphasizing the effectiveness and fiscal benefit of structural security planning.

²⁷ U.S. Department of Homeland Security, *National Infrastructure Protection Plan: Partnering to Enhance Protection and Resiliency* (Washington, DC: U.S. Department of Homeland Security, 2010).

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II. LITERATURE REVIEW

A review of the literature related to school security reveals significant vulnerabilities common in many of our nation's schools. This analysis also reveals a wealth of published resources that provides school districts with security strategies and examples of best practices. The literature demonstrates a historically reactive approach to school security with a concentration on consequence management rather than prevention. Finally, this review confirms that the absence of physical security measures and target-hardening methods creates opportunities for assailants committed to mass murder and terror.

Although there are several different categories of murder, this research project focuses on mass murder because of its devastating impact on communities. Concurrently, this project also examines the readiness of our country to manage a terrorist attack on our school system. Mass murder is defined as “the murder of four or more victims, occurring in one location at approximately the same time, as a single episodic act.”²⁸ Similar to terrorists, mass murder suspects do not attempt to avoid detection and capture, instead they are likely to commit suicide or be killed by responding authorities.²⁹

The literature draws distinctions between mass murder suspects and ideologically inspired terrorists. A Congressional Research Service report from March 2013 titled, *Public Mass Shootings in the United States: Selected Implications for Federal Public Health and Safety Policy*, reveals that most mass murders act alone, are not inspired by a radical ideology, and often do not communicate their destructive intentions to anyone.³⁰

In a research paper entitled, *Mass Murder: Causes, Classification, and Prevention*, Dr. James L. Knoll IV proffers that “the existing research base suggests that factors common to mass murder include extreme feelings of anger and revenge, social

²⁸ John Klofas, *Summary of Research on Mass Murder* (Rochester, NY: Rochester Institute of Technology: Center for Public Safety Initiatives, 2009).

²⁹ Ibid.

³⁰ Jerome P. Bjelopera, Erin Bagalman, Sarah W. Caldwell, Kristin M. Finklea, and Gail McCallion, *Public Mass Shootings in the United States: Selected Implications for Federal Public Health and Safety Policy* (Washington, DC: Congressional Research Service, 2013).

alienation, rumination on violent revenge fantasies, variable psychiatric illness, precipitating social stressors, and significant planning before the offense.”³¹ In his paper entitled, *Research in School Shootings*, Glenn Muschert classified this type of killer as an adult male with no affiliation to the selected school. He defined the motivation for these types of attacks to gain power or exact revenge and explained that the selection of the targeted school is due primarily to the symbolic significance of the institution.³²

The findings of *The Safe School Initiative*, a collaborative report published by the United States Secret Service and the Department of Education, concurs with Dr. Knoll’s assessment that most assailants engage in certain pre-attack behaviors. One such indicator is pre-operational surveillance wherein suspects assess the vulnerability of their potential target prior to attacking.³³ However, this report also states that student attackers are likely to communicate their plans with at least one person prior to committing their violent act.³⁴

Mass murder at a school creates palpable fear in a community. Authors Christopher Ferguson, Mark Coulson, and Jane Barnett wrote of this fact in their collaborative paper entitled, *Psychological Profiles of School Shooters: Positive Directions and One Big Wrong Turn*. This public fear usually results in rash strategies such as the profiling of students, searching for warning signs of future attacks. These appraisals may be beneficial in incidences of school violence committed by students but has limited value against an armed intruder invading a school intent on massacring children.³⁵ Dr. Jonathan Fast concurs with this assessment of fear in his book, *Ceremonial Violence: Understanding Columbine and Other School Rampage Shootings*.

³¹ James L. Knoll, “Mass Murder: Causes, Classification, and Prevention” (Philadelphia, PA: Psychiatric Clinics of North America, 2012), 777.

³² Muschert, *Research in School Shootings*, 60–80.

³³ U.S. Secret Service and U.S. Department of Education, *The Final Report*.

³⁴ Ibid.

³⁵ Christopher Ferguson, Mark Coulson and Jane Barnett, “Psychological Profiles of School Shooters: Positive Directions and One Big Wrong Turn,” *Journal of Police Crisis Negotiations*, no. 11 (2011): 1–17.

He acknowledges the damage sustained by communities after a mass casualty shooting and communicates the detrimental impact on the national psyche.³⁶

The literature advocates for preparedness against a terrorist attack as radically inspired terrorists have publicized their intent to attack American schoolchildren.³⁷ Liberty University doctoral candidate Michael W. M. Dube addresses this risk in his dissertation entitled, *Rhode Island School Terrorist Attack Preparedness*. Dube's research, although focused on preparedness levels in Rhode Island, affirmed that our nation's schools are practical targets for terrorist attacks primarily because they accommodate children in large numbers and operate on predictable schedules, making the execution of an attack fairly simple.³⁸ His research concluded a lack of emergency preparedness standards and professional security arrangements continue to make schools vulnerable to attack.³⁹

In her book *What Terrorists Want, Understanding the Enemy, Containing the Threat*, political scientist and author Louise Richardson also substantiates the threat to American schoolchildren. Professor Richardson explains al-Qaeda's rationalization for targeting defenseless children stems from their perception of the brutal impact of American economic sanctions in Iraq.⁴⁰

Concurring with Dube and Richardson and addressing the psychological impact of such an attack, authors Mark Brandenburg and James L. Regens published an article in the *Journal of Homeland Security and Emergency Management*, declaring, "the risk that

³⁶ Fast, *Ceremonial Violence*, 333.

³⁷ Ben Venzke and Aimee Ibrahim, *Al-Qaeda's Advice for Mujahideen in Iraq: Lessons Learned in Afghanistan* (Alexandria, VA: IntelCenter, 2003).

³⁸ Michael W. M. Dube, "Rhode Island School Terrorist Attack Preparedness" (PhD diss., Liberty University, Lynchburg, VA, 2012).

³⁹ Ibid.

⁴⁰ Louise Richardson, *What Terrorist Want, Understanding the Enemy, Containing the Threat* (New York: Random House, 2006).

children might be targeted by terrorists is evidenced by the fact that children who have been placed in danger, injured or killed generate an enormous emotional impact on the community and in the media.”⁴¹

Retired public safety administrator and author Eric Shoemaker volunteers a more restrained approach in his article, *Terrorism in American Schools: The First of All Fears*. Shoemaker contends the likelihood of a terrorist attack on an American school is minimal. He concludes that risk management strategies should be devised and implemented to address threats from a more historical perspective.⁴² Because students have committed the majority of school attacks in our country, there is not much literature explaining the targeting of schools by adult assailants.

Michael and Chris Dorn, authors of the book, *Innocent Targets, When Terrorism Comes to School*, generally agree with Shoemaker. They confirm the threat to American schoolchildren but also deftly explain why the targeting of schools by terrorists are rare events and therefore require measured responses.⁴³ They contend that terrorist organizations that intentionally victimize schoolchildren run the risk of alienating the people, groups, and governments that provide them meaningful support. Additionally, the Dorns postulate that attacks directed at schoolchildren will most likely accelerate counterterrorism efforts against them.⁴⁴

Author and political scientist Max Abrams shares this opinion. In his article, “Why Terrorism Does Not Work,” he explains the key variable for terrorist success has always been target selection.⁴⁵ Abrams argues attacks on civilian targets would be an impediment to a terrorist group’s pursuit of their policy objectives.⁴⁶

⁴¹ Mark Brandenburg and James Regens, “Terrorist Attacks Against Children: Vulnerabilities, Management Principles and Capability Gaps,” *Journal of Homeland Security and Emergency Management* 3, no. 4 (2006).

⁴² Eric Shoemaker, *Terrorism in American Schools: The First of all Fears* (Alexandria, VA: Public Entity Risk Institute, 2013).

⁴³ Dorn and Dorn, *Innocent Targets*.

⁴⁴ Ibid.

⁴⁵ Max Abrahms, *Why Terrorism Does Not Work* (Cambridge, MA: John F. Kennedy School of Government, Harvard University, 2006).

⁴⁶ Ibid.

The National School Safety Center (NSSC), established by U.S. presidential mandate in 1984, now operates as an independent non-profit organization serving schools and communities worldwide providing training in the area of school safety.⁴⁷ In 2004, after the terrorist attack on a school in Beslan, Russia that claimed the life of 186 innocent schoolchildren, the NSSC published a report making the following claim:

To date, no U.S. school has been the target of an international terrorist attack. However, schools could be considered viable terrorist targets for the following reasons:

- An attack at a school would instill fear and panic nationwide.
- An attack on a school could promote the reputation and power of a terrorist/group.
- An attack at a school would warrant national media coverage.
- Schools provide an essential community service. About one-quarter of the nation's population attends school each school day.
- Schools symbolize America and our future.
- Many schools remain easy targets due to their accessibility, vulnerability and prominence in the community.⁴⁸

In 2004, shortly after the Beslan massacre, United States Department of Education, Deputy Secretary Eugene Hickok sent a letter to school officials nationwide suggesting the following procedures be implemented immediately:

...secure locks for all external and internal doors and windows; install window and external door protections with quick-release capability; establish a safe area within the school for assembly and shelter during emergencies; apply a protective coating on windows in facilities that face roadways; establish and review of crisis management plans; and report suspicious activity to law enforcement.⁴⁹

This appears to have been the first time the federal government directed local school districts to take security action yet no information was available in the literature to appraise the level of national compliance with this mandate.

⁴⁷ National School Safety Center, *Safeguarding Schools against Terror* (Washington, DC: National School Safety Center, 2004).

⁴⁸ Ibid.

⁴⁹ Ibid.

The last decade has witnessed an accelerated effort to increase school security awareness and the federal government has provided administrators with substantial information. Pamphlets, such as the *Practical Information on Crisis Planning: A Guide for Schools and Communities*, focus school officials on crisis management planning and directs them to consult with first responders and other community representatives to develop mitigation strategies defending against an array of hazards.⁵⁰ Unfortunately, this planning document does not accentuate the threat from individuals' intent on mass murder.

Similarly, in the *Guide To School Vulnerability Assessments: Key Principles for Safe Schools*, Department of Education representatives offer school administrators guidance on assessing vulnerabilities at their schools. Regrettably, this tool is focused more on weather related dangers and dedicates only one paragraph to the threat of terrorism.⁵¹

A lack of security expertise, fiscally restrained school budgets, and federal agencies intent on providing schools with overwhelming amounts of planning documents appear detrimental to the objective of making schoolchildren safer. This assertion is substantiated in a 2007 Government Accountability Office (GAO) report.⁵² The report claims "school officials identified challenges stemming from a lack of equipment, training for staff, and personnel with expertise in the area of emergency planning as obstacles to implementing recommended practices."⁵³ This same report also stresses the need for better communication between school officials, parents, and first responders and testifies that only 32 states possess crisis management plans.⁵⁴

This literature review also revealed peripheral involvement from the Department of Homeland Security (DHS), Office of Infrastructure Protection. National Critical

⁵⁰ U.S. Department of Education, *Practical Information on Crisis Planning: A Guide for Schools and Communities* (Washington, DC: U.S. Department of Education, 2007).

⁵¹ U.S. Department of Education, *A Guide to School Vulnerability Assessments*.

⁵² U.S. Government Accountability Office, *Emergency Management: Status of School Districts' Planning and Preparedness* (Washington, DC: U.S. Government Accountability Office, 2007).

⁵³ Ibid.

⁵⁴ Ibid.

Infrastructure is defined as “the backbone of our nation's economy, security and health.”⁵⁵ However, initial sector identification designation excluded our nation’s school system.⁵⁶ In 2006, the Department of Education and DHS collaborated on the inclusion of all schools within the framework of *National Infrastructure Protection Plan* (NIPP).⁵⁷ The Education Facilities Sub Sector was established and now provides infrastructure protection guidance to “all public and private K–12 schools (including charter schools); public and private higher education schools and institutions; U.S. Department of Defense schools; and American-sponsored overseas schools assisted by the U.S. Department of State.”⁵⁸

DHS’s Science and Technology Directorate recently published a comprehensive document as part of its *Building and Infrastructure Protection Series*. The stated purpose of this primer is to provide school administrators with the basic principles and techniques needed to make schools safe from terrorist attacks. The document offers specific instruction regarding a diverse range of dangers and also provides information to the structural design community ensuring newly constructed schools could provide enhanced security while assuring the school remains “functional and esthetically pleasing.”⁵⁹

Although drafted to explore the business relationships between DHS and private sector businesses, the article titled, “The Challenge of Protecting Critical Infrastructure” makes a salient point. The authors, students at the Wharton Business School of the University of Pennsylvania, Center for Risk Management and Decision Processes, are critical of the government’s approach to infrastructure protection proffering that “extraordinary levels of coordination of many organizations, public and private, will be

⁵⁵ U.S. Department of Homeland Security, “What is Critical Infrastructure?” U.S. Department of Homeland Security, 2013, <http://www.dhs.gov/what-critical-infrastructure>.

⁵⁶ Joshua B. Bolton, *Development of Homeland Security Presidential Directive (HSPD) 7 Critical Infrastructure Protection Plans to Protect Federal Critical Infrastructures and Key Resources* (Washington, DC: Executive Office of the President, Office of Management and Budget, 2004).

⁵⁷ U.S. Department of Homeland Security and U.S. Department of Education, *Education Facilities Sector-Specific Plan: An Annex to the Government Facilities Sector-Specific Plan* (Washington, DC: U.S. Department of Homeland Security and U.S. Department of Education, 2010).

⁵⁸ Ibid.

⁵⁹ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

required to secure any improved level of prevention, response, and recovery.”⁶⁰ The literature examined for this review suggests this is especially accurate when addressing school security.

The NIPP empowers sector specific agencies (SSA) to coordinate emergency planning efforts with partners at the state and local levels but fails to mandate school security procedures citing our country’s highly decentralized system of education.⁶¹ Therefore, it is held that the general authority to create and administer public schools is reserved for the states. Additionally, there is no national school system in this country and the Department of Education does not dictate curricula.⁶² This environment requires the SSA to provide only notional assistance regarding school security.

On more than one occasion, the federal government has taken legislative action to protect the populace when states have failed to act. For instance, in 1968, Congress passed the Bank Protection Act. The intent of this legislation was to “discourage robberies, burglaries and larcenies committed against financial institutions.”⁶³ The act required physical security measures be implemented and maintained to deter and defeat would be criminal networks targeting our local financial institutions.⁶⁴ Presently, a national security standard exists in all federally insured financial institutions guaranteeing a level of safety for our currency. It is time for a similar standard to be applied to protect our children.

There is a gap in the literature concerning the most recent threat to schools. The literature does not offer pertinent research on adult attackers without a known affiliation to the targeted school. The literature on this topic demonstrates an obvious need for more federal government engagement and that funding alone is not the answer. Numerous

⁶⁰ Philip Auerswald, Lewis M. Branscomb, Todd M. LaPorte, and Erwann Michel-Kerjan, “The Challenge of Protecting Critical Infrastructure,” working paper 05-11, Wharton Business School, University of Pennsylvania, Philadelphia, PA, 2005.

⁶¹ Ibid.

⁶² U.S. Department of Education, *Education in the United States: A Brief Overview* (Washington, DC: U.S. Department of Education, 2005).

⁶³ Office of Thrift Supervision, *Examination Handbook, Compliance Laws and Regulations: Bank Protection Act* (Washington, DC: Office of Thrift Supervision, 1999).

⁶⁴ Ibid.

limiting factors exist, including social and political constraints. For a variety of reasons, many school districts nationwide have not developed satisfactory emergency management plans with cogent methods designed to counter mass murder and the threat of terrorism. Physical security components have been overlooked in favor of armed resource officers funded through grant procedures. School administrators are often incapable of conducting proper vulnerability assessments and the tasking of subject matter experts is apparently necessary. Simple environmental design strategies and the employment of physical security components can be effectively utilized to reduce risk in all of our nation's schools.

A. RESEARCH METHOD

This thesis will investigate the practicality of a national school security standard mandating the implementation of physical security measures designed to reduce the risk of an attack by an armed intruder. The need for the integration of armed law enforcement and mental health professionals will be addressed but will not be the focus of this research. I will appraise existing school security options and examine current practices utilizing data provided by literature. The overall purpose of this research project is to proffer a strategy that will dramatically improve school security while minimizing the intrusion on the educational environment. Eugene Bardach's book, *A Practical Guide for Policy Analysis, The Eightfold Path to More Effective Problem Solving*, will serve as the methodological framework for this policy development project. Professor Bardach identifies eight important steps to policy analysis and this project will utilize all of these steps in an attempt to address a significant policy gap.⁶⁵

1. Define the Problem

The American education system is vulnerable to attack from hostile intruders with malicious intentions due primarily to their predictable schedules, numerous access points, minimal security components, and welcoming environments. One of the associated

⁶⁵ Eugene Bardach, *A Practical Guide for Policy Analysis, the Eightfold Path to More Effective Problem Solving*, 4th ed. (New York: CQ Press College, 2011), 176.

problems is that school administrators and local governments lack the training, funding, and expertise needed to adopt effective security strategies.

2. Assemble Some Evidence

The evidence used to support this project will be grounded in literature such as government issued reports, journals, and books written on the topic of school safety. An analogous evaluation of the physical security features present in select government buildings will be performed as well as an analysis of the adaptation of fire suppression equipment in school buildings.

3. Construct the Alternatives

During the development of this policy proposal, I will evaluate the following alternatives: training and arming teachers to defend schools from attack, mandating the employment of armed school resource officers, and implementing physical security measures, and target hardening strategies specifically designed to secure the venue's perimeter. There will be variations among these alternatives due to available funding, political appeasement, legality, and acceptance by key stakeholders.

4. Select the Criteria

Because this proposal focuses on bolstering the security of defenseless children and their teachers at school, efficiency will be the primary evaluative criteria utilized. Unless tested by an attacker, the necessary feedback loop for the systems efficiency will be missing. This project will also examine values such as community, fairness, and equality and their relationship with current and proposed school security practices. Practical criteria, such as constitutionality and political acceptability, will also be analyzed with a focus on the strategic alliances necessary for successful policy implementation.

5. Project the Outcomes

This research project will construct credible policy outcome models that are established in social science and utilize security methodologies commonly employed in

other protected sectors. These models will incorporate alternative options combined with existing conditions that are commonly found in most schools. The research will also furnish realistic projections concerning the political feasibility of this policy along with an evaluation of undesirable side effects and possible implementation pitfalls.

6. Confront the Trade-offs

An assessment of the outcome models will determine the option with the greatest value proposition for the numerous constituents affected by this policy proposal. Financial resource allocation will initially serve as our commensurable metric; however, the need for political support will require a break-even analysis that estimates the acceptable levels of risk to schoolchildren.

7. Decide

The final stages of this research project will lead to contemplation about the conviction of this proposed policy. Evaluation of the research process and the analytic yield will be completed from the perspective of the decision maker. Modifications to the proposal will be made during this step to answer any uncertainties.

8. Tell Your Story

This final step requires the ability to present a clear, concise, realistic thesis supporting the proposed policy. Awareness of both our audience and political factions that may pervert this project is critical. Our policy recommendations will be factually supported and will rebut possible objections to implementation.

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III. SCHOOLS: OUR MOST CRITICAL INFRASTRUCTURE

A. RECOGNITION OF THE DANGER

The question regarding the vulnerabilities surrounding our nation's schools is often debated after a tragedy like the event in Newtown, Connecticut last year. With the discourse focused on access to assault weapons and mental health information sharing, the recognition that a threat remains is often lost in the issue attention cycle.⁶⁶

Making school security a homeland security priority has already happened with incalculable results. Since 1999, the United States Government has spent more than 1 billion dollars on school security efforts.⁶⁷ The expenditures were dedicated to a nationwide school resource officer program. This program provided a "maximum federal contribution up of to \$125,000 per officer position" for the duration of the three-year grant period.⁶⁸ After the grant period expired, many districts struggled to maintain this security component, but could not, thereby reducing their level of safety. Throughout the literature, the four key stakeholders in the education enterprise, the students, their parents, their teachers, and school administrators largely provide the assessment of the usefulness of this program. The students are generally undecided about the program but their parents appreciate the sense of elevated safety.⁶⁹ Some faculty members appear supportive of the program, believing a uniformed law enforcement official helps curb student misconduct and enhance overall security.⁷⁰

During the same timeframe that federal resources were allocated to this program, active shooting incidents increased in the United States with schools representing 34

⁶⁶ Christopher Bellavita, "Changing Homeland Security: What Should Homeland Security Leaders be Talking About?" *Homeland Security Affairs* 2., no. 2 (2006).

⁶⁷ U.S. Department of Justice, "COPS: Community Oriented Policing Services," U.S. <http://www.cops.usdoj.gov/Default.asp?Item=34>.

⁶⁸ Ibid.

⁶⁹ Myrstol, "Public Perceptions."

⁷⁰ Ibid.

percent of the targeted venues.⁷¹ This statistic is not a criticism of this program however there is no research available demonstrating that the school resource officer position provides an appreciable level of security to a school. As an example, during the Columbine High School massacre in 1999, a school resource officer was assigned to the campus but could not mitigate the attack after exchanging gunfire with the suspects.⁷²

A survey conducted in 2010 by the Department of Education, found that 84 percent of all public schools maintained a written response plan in the event of a shooting but only 52 percent of these schools had practiced the execution of the plan.⁷³ The results of this survey demonstrate that a narrative already exists surrounding school shootings. Eighty-four percent of approximately 130,000 schools have written plans designed to help secure students and faculty members. If there were not practical threat recognition, these numbers would be much lower.

Another indicator of the recognition of the threat to schools is their inclusion within the national critical infrastructure and key resource (CIKR) program. The next section will provide an overview of critical infrastructure and the education facilities sub-sector.

B. NATIONAL CRITICAL INFRASTRUCTURE AND KEY RESOURCES

Critical infrastructure is defined as the:

...systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.⁷⁴

⁷¹ J. Pete Blair and M. Hunter Martaindale, "United States Active Shooter Events from 2000 to 2010: Training and Equipment Implications," Police Forum, 2013, <http://policeforum.org/library/critical-issues-in-policing-series/Blair-UnitedStatesActiveShooterEventsfrom2000to2010Report-Final.pdf>.

⁷² Sandra J. Austin, "Lessons Learned from the Shootings at Columbine High School," The Human Side of School Crises: A Public Entity Risk Institute Symposium, February 24–28, 2003, School Counselor Association, <http://www.schoolcounselor.org/asca/media/asca/Crisis/columbine.pdf>.

⁷³ White House, "Now is the Time."

⁷⁴ Public Law 107-56, 107th Cong., *Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism [USA PATRIOT Act] Act of 2001*, 1016 (e).

Although defined by the PATRIOT Act, the identification and requirement to secure our nation's critical infrastructure actually pre-dates the terrorist attacks of 2001. Critical infrastructure was initially identified as physical and cyber-based systems necessary for the minimum operations of the both the economy and the government. These included communication systems, electrical systems, banking and financial networks, transportation and water systems and governmental emergency services.⁷⁵

In 1998, President William Clinton recognized the need to address potential vulnerabilities in these systems and issued *Presidential Decision Directive 63* (PDD-63). This executive order directed the full resources of the federal government to work toward the development of mitigation strategies for attacks on identified critical infrastructure.⁷⁶ The evolution of this federal security strategy led to the recognition of another set of national assets ascribed the term "key resources." Key resources are considered publicly or privately controlled assets essential to the minimal operations of the economy and government.⁷⁷

President George W. Bush expanded the scope of PDD-63 in 2003 with the issuance of *Homeland Security Presidential Directive-7* (HSPD 7). This mandate created a national critical infrastructure protection policy and identified the Secretary of Homeland Security as the principal coordinator.⁷⁸ The purpose of HSPD 7 was to protect the country from the threat of terrorist attack, but President Bush also directed agencies to develop "strategic security enhancements, and devise tactical security improvements that can be rapidly implemented to deter, mitigate, or neutralize potential attacks."⁷⁹ During policy development, CIKR were categorized into specific sectors. Federal agencies were

⁷⁵ White House, *Presidential Decision Directive/NSC-63, Critical Infrastructure Protection* (Washington, DC: White House, 1998), 2.

⁷⁶ Ibid.

⁷⁷ *Homeland Security Act of 2002* (2002): 2(9), U.S. Department of Homeland Security, http://www.dhs.gov/xlibrary/assets/hr_5005_enr.pdf.

⁷⁸ White House, *Homeland Security Presidential Directive/HSPD-7* (Washington, DC: White House, 2003).

⁷⁹ Ibid.

then assigned to each of these sectors and instructed to establish collaborative partnerships, conduct vulnerability assessments, and ensure the implementation of successful preventative measures.

HSPD 7 led to the development of the *National Infrastructure Protection Plan* (NIPP). The NIPP sets the parameters for the national risk management strategy and provides a coordinated approach utilized “to establish national priorities, goals, and requirements for infrastructure protection so that funding and resources are applied in the most effective manner.”⁸⁰

The efforts to safeguard our nation’s CIKRs continue to evolve and mature. *Presidential Policy Directive 21* (PPD-21), issued by President Barack Obama, has superseded HSPD 7. This directive refines critical sectors, clarifies responsibilities, and promotes the concept of resilience. It also directs agencies to “reduce vulnerabilities, minimize consequences, identify and disrupt threats, and hasten response and recovery efforts related to critical infrastructure.”⁸¹

There are 16 CIKR sectors recognized by PPD-21, they are: chemical, commercial facilities, communications, critical manufacturing, defense industrial base, emergency services, energy, financial services, food and agriculture, government facilities, healthcare and public health, information technology, nuclear reactors, materials, and waste, transportation systems, water and wastewater.⁸² Each sector has been assigned a federal department or agency to serve as the sector specific agency (SSA) responsible for compliance with NIPP based initiatives and is designated to provide knowledge and expertise regarding security and resilience.⁸³ Core tenants of the NIPP include risk-based prevention, asset protection, and preparedness strategies with the goal of reducing sector vulnerabilities.⁸⁴

⁸⁰ U.S. Department of Homeland Security, *National Infrastructure Protection Plan*.

⁸¹ White House, *Presidential Policy Directive PPD 21: Critical Infrastructure Security and Resilience* (Washington, DC: White House, 2013).

⁸² Ibid.

⁸³ Ibid.

⁸⁴ U.S. Department of Homeland Security, *National Infrastructure Protection Plan*.

In 2006, the Department of Homeland Security recognized schools and universities as CIKR and a collective focus on protective methodology in the educational environment emerged. The Bush administration acknowledged that the threat to defenseless schoolchildren required involvement from the federal government.⁸⁵ The education facilities sector (EFS) was created and became a subsector of the government facilities sector. The United States Department of Education was tasked with coordinating security efforts and providing information to the Department of Homeland Security regarding compliance with the goals established by the NIPP.⁸⁶

The EFS is expected to create partnerships with state and local entities and provide school administrators with crisis management guidance on school security measures. As the SSA, the Department of Education establishes objectives in an attempt to have all schools create and practice emergency management protocols.⁸⁷

1. Defining the Threat

The NIPP defines risk as “the potential for an unwanted outcome resulting from an incident, event, or occurrence, as determined by its likelihood and the associated consequences.”⁸⁸ The assessment process of individual CIKR sectors utilizes three variables to assign a risk score. These variables are: threat, vulnerability, and consequence. The applicable scores assist decision makers with the resource allocation needed to reduce the risk to more acceptable levels.

The risk management framework employed by the NIPP focuses on the numerous hazards that threaten sectors of CIKR. Some of the hazards are weather related, such as tornados and hurricanes; others are manmade hazards, such as the threat posed by active shooters and terrorism. A commonality among these hazards is that the scope of the threat to the sector is often not known in advance, which makes prevention much more

⁸⁵ *Protecting our Schools: Federal Efforts to Strengthen Community Preparedness and Response, Full Hearing of the Committee on Homeland Security*, 110th Cong. (2007) (testimony of Kenneth Trump).

⁸⁶ U.S. Department of Homeland Security and U.S. Department of Education, *Education Facilities Sector*.

⁸⁷ Ibid.

⁸⁸ U.S. Department of Homeland Security, *National Infrastructure Protection Plan*.

difficult.⁸⁹ The EFS also employs the NIPP risk assessment methodology as part of a comprehensive defense strategy for school security planning and acknowledges that schools are at risk for both natural and manmade hazards.⁹⁰

DHS defines threat as it pertains to school security as “any indication, circumstance, or event with the potential to inflict harm and cause losses.”⁹¹ To calculate the risk associated with a terrorist attack on a sector, the probability of the threat is estimated based on the likelihood of the attack as well as the intent and capability of the assailant.⁹² Presently, the Department of Education relies largely on independent vulnerability assessments to discern the significance of this threat. EFS planning documents state that the possibility exists for the consideration of sector-wide assessments on all education facilities predicated on future conditions.⁹³

Terrorists would relish an opportunity to demonstrate the inability of our government to protect its citizens and garner excessive media coverage of their attack helping to advance their malevolent ideology.⁹⁴ The recent attacks in Boston by radically inspired brothers’ underscore their tactical capability. Motivation and justification for targeting our children can be directly linked to U.S. foreign policy doctrine. Recent collateral damage from drone strikes, as well as the economic sanctions on Iraq in the late 1990s, have claimed the lives of thousands of children in the Middle East.⁹⁵

An advanced warning of an attack from terrorists or a hostile intruder committed to mass murdering children is not likely. Historically, individuals and not groups have

⁸⁹ Ibid.

⁹⁰ U.S. Department of Homeland Security and U.S. Department of Education, *Education Facilities Sector*.

⁹¹ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

⁹² *National Infrastructure Protection Plan: Partnering to Enhance Protection and Resiliency*, 32.

⁹³ U.S. Department of Homeland Security and U.S. Department of Education, *Education Facilities Sector*.

⁹⁴ Dorn and Dorn, *Innocent Targets*.

⁹⁵ Richardson, *What Terrorist Want*, 219.

committed most attacks on schools.⁹⁶ The anonymity afforded the lone assailant significantly hinders the ability to reduce this threat.

2. Assessing the Vulnerability

Vulnerability assessments measure the likelihood of a successful attack on a specific target.⁹⁷ Organizational vulnerability is a significant element of a useful assessment and in most schools it evaluates the venue's size, configuration, and procedural routines assessing exploitation opportunities for attackers.⁹⁸ The enrollment statistics offered earlier in this research project demonstrates the considerable security burden facing the SSA. An additional problem is that attackers perform their own assessments, choosing their targets based on "verified weaknesses in those target's defenses."⁹⁹

The assessment of vulnerability is a very important component in risk management. With the probability of extreme consequence and a consistent threat, the evaluation of vulnerability becomes the only subjective variable in a risk management equation.¹⁰⁰ Security professionals from DHS have made a macro assessment of our nation's schools and deemed them to be highly vulnerable to attack and lacking the capacity to prevent a hostile intruder from entering and causing mass casualties.¹⁰¹

Prior to the attack on the Sandy Hook Elementary school, the SSA directed school administrators with limited training to estimate vulnerability at their schools. The administrators were provided a variety of tools including checklists and web-based products to guide them through the process. However, teachers have chosen education as their professional discipline, not security, and they should not be required to conduct

⁹⁶ Jessie Klein, *The Bully Society: School Shootings and the Crisis of Bullying in America's Schools* (New York: New York University Press, 2012).

⁹⁷ Douglas W. Hubbard, *The Failure of Risk Management, Why it's Broken and How to Fix It* (Hoboken, NJ: John Wiley & Sons, Inc., 2009).

⁹⁸ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

⁹⁹ Ibid.

¹⁰⁰ Hubbard, *The Failure of Risk Management*.

¹⁰¹ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

these assessments.¹⁰² The NIPP requires SSAs to be accountable for compiling these vulnerability assessments and directs them to work with DHS personnel to review the results in an attempt to better understand the risks associated with the surveyed schools.¹⁰³ Presently, DHS has directed CIKR security specialists referred to as protective security advisors to assist with the school assessment process.¹⁰⁴

Many schools are continuing to self-assess but these assessments are not yet mandatory, and there remains no consequence for non-compliance. Citing the highly decentralized education system in the United States, EFS planning documents stipulate that the ultimate responsibility for the protection of schoolchildren and faculty members belongs to local communities and individual states.¹⁰⁵ Additionally, there is no requirement for schools to collaborate with their respective first responder community, and these partners are not universally involved in the evaluation process.¹⁰⁶ The enormous size of our education system and the uniqueness of design inherent in many schools suggest that general assessments commonly found in checklists will lead to faulty outputs, ineffective strategies, and a waste of scarce resources.¹⁰⁷

3. The Consequence of Failure

An attack on a school by an armed intruder is a historically rare event.¹⁰⁸ Schools are considered safe places, and parents, teachers and students have an expectation of safety at schools. However, an attempted or successful attack could have significant implications not only on that specific district but the national psyche too. Resource allocation for security at schools is often weighed against the probability that an armed

¹⁰² *School Safety in the 21st Century: Adapting to New Security Challenges Post 9-11.*

¹⁰³ Department of Homeland Security, *National Infrastructure Protection Plan.*

¹⁰⁴ Office of Infrastructure Protection, *K-12 School Security Practices Guide* (Washington, DC: U.S. Department of Homeland Security, 2013).

¹⁰⁵ U.S. Department of Homeland Security and U.S. Department of Education, *Education Facilities Sector.*

¹⁰⁶ U.S. Government Accountability Office, *Emergency Management.*

¹⁰⁷ Hanover Research, *Best Practices in School Security.*

¹⁰⁸ Dorn and Dorn, *Innocent Targets.*

intruder would target a school for attack.¹⁰⁹ The threat of a mass murder or terrorist attack on a school can be viewed as an outlier or “black swan” and for that reason objections to heightened security practices pervade the education community.

A black swan refers to an event with a low probability of occurrence but extreme consequences.¹¹⁰ Economist and author Nassim Nicholas Taleb made this terminology popular by explaining unforeseen events in the financial sector. He contends that in order for an event to be classified as a black swan, the following three things must be present:

- First, the event lies outside the realm of regular expectations.
- Second, the event carries extreme consequences and
- Third, hindsight is employed in an attempt to make the event explainable to key stakeholders.¹¹¹

Taken in its entirety, the application of Taleb’s probability theory to violent school incidents is questionable, but two of the attributes of the black swan theory exist in all school attacks. The consequences are always extreme as these mass casualty events impact hundreds of people. Families are forever changed by the death of a child and equally impacted are the lives of teachers and school administrators directly and indirectly involved in the event.¹¹² Psychological studies have concluded that posttraumatic stress disorder is prevalent in victims, witnesses, first responders, and members of a community impacted by a mass murder at a school.¹¹³ The extensive media coverage that follows these events adversely influences local and national morale, often creating uncertainty, panic and fear.¹¹⁴

¹⁰⁹ *School Safety in the 21st Century: Adapting to New Security Challenges Post 9-11*.

¹¹⁰ Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007), 366.

¹¹¹ Ibid.

¹¹² Eric Madfis, “Averting the Unlikely: Fearing, Assessing, and Preventing Threats of Rampage Violence in American Public Schools,” Northeastern University, Boston, MA, 2012, http://iris.lib.neu.edu/cgi/viewcontent.cgi?article=1016&context=soc_diss.

¹¹³ Fran H. Norris, “Impact of Mass Shootings on Survivors, Families, and Communities,” *The National Center for Posttraumatic Stress Disorder PTSD Research Quarterly* 18,, no. 3 (2007).

¹¹⁴ David L. Altheide, “The Columbine Shootings and the Discourse of Fear,” *American Behavioral Scientist* 52,, no. 10 (June 2009).

There are also consequences economically to school attacks through post-incident litigation, insurance costs, and associated long-term recovery efforts.¹¹⁵ The financial assessments of the Sandy Hook attack are not yet available but approvals have been granted for the construction of a new elementary school to be built on the site of the previous school with a proposed cost of \$60 million.¹¹⁶ Comparatively, a similar mass murder incident at Virginia Tech University in 2007 cost taxpayers approximately \$48 million.¹¹⁷

Additional consequences are propagated by fear and include disruptions to the educational environment impacting the student's readiness and capacity to learn as well as the hiring and retention of teachers and staff members.¹¹⁸ During testimony to the Homeland Security Committee, author and school security professional Kenneth Trump made the following claim:

Children cannot learn and teachers cannot teach to their maximum capability if they are worried about their personal safety. Education will cease as school-communities struggle to manage and recover from a critical incident, and the impact can be both severe and long-term.¹¹⁹

The interruption of teaching future generations in American classrooms because of an attack from terrorists or other malicious actors would be catastrophic and detrimental to our national security.¹²⁰

The other condition of the black swan theory that is present in all attacks on schools is the application of hindsight. Post incident analysis often reveals signals that

¹¹⁵ Joseph De Avila, "Sandy Hook Sees Rebound: Closure of School Where 26 were Killed Contributed to Village's Economic Funk," *The Wall Street Journal*, September 26, 2013.

¹¹⁶ United Press International, "Newtown to Build New School at Site of Mass Shooting," *Top News*, May 11, 2012, www.upi.com/Top_News/US/2013/05/11/Newtown-to-build-new-school-at-site-of-mass-shooting/UPI-29721368286513/.

¹¹⁷ Anthony Green and Donna Cooper, *Auditing the Cost of the Virginia Tech Massacre: How Much we Pay when Killers Kill* (Washington, DC: Center for American Progress, 2012).

¹¹⁸ Stephanie Verlinden, Michel Hersen, and Jay Thomas, "Risk Factors in School Shootings," *Clinical Psychology Review* 20,, no. 1 (2000).

¹¹⁹ *Protecting our Schools: Federal Efforts to Strengthen Community Preparedness and Response, Full Hearing of the Committee on Homeland Security*, 110th Cong. (2007) (testimony of Kenneth Trump).

¹²⁰ U.S. Commission on National Security/21st Century, *Road Map for National Security: Imperative for Change, The Phase III Report of the US Commission on National Security*, 2001, University of North Texas, <http://govinfo.library.unt.edu/nssg/PhaseIIIFR.pdf>.

were missed in the days preceding the attacks.¹²¹ The behavioral analysis of the attacker leads to additional reactionary procedures with very little focus on the prevention of additional attacks and no apparent plan for the peripheral threat presented by a hostile intruder.¹²²

Finally, the aspect of Taleb's black swan theory that does not apply to school shootings is the premise that the event lies outside the realm of regular expectation.¹²³ Published documents by both DHS and the Department of Education providing school administrators with strategy and tactical plans to manage an attack on a school demonstrate an expectation does exist. These documents and numerous violent attacks on schools throughout the years prove these events should not be considered black swans and may have significant national security ramifications.¹²⁴

C. HOMELAND AND NATIONAL SECURITY IMPLICATIONS

Education has always been an important facet of our culture and in today's transnational economy the premium placed on education is significant. The foundation of American national security is the strength of the economy and education is considered the vehicle for future stability.¹²⁵

The assertion that school shootings are black swan events can be countered with statistical outputs demonstrating an alarming increase in event frequency. An evaluation of school shootings over the last 30 years reveals an increase in events during each examined decade.¹²⁶ Additionally, mass shootings in publically accessible areas continue

¹²¹ U.S. Secret Service and U.S. Department of Education, *The Final Report*.

¹²² Verlinden, Hersen, and Thomas, "Risk Factors in School Shootings."

¹²³ Taleb, *The Black Swan*, 366.

¹²⁴ Skadden, Arps, Slate, Meagher, and Flom LLP, *Appendix L: Fatal School Shootings in the United States: 1966–2007*, 2007, <http://www.governor.virginia.gov/tempcontent/techPanelReport-docs/27%20APPENDIX%20L%20-%20Fatal%20School%20Shooting%20in%20the%20US.pdf>.

¹²⁵ U.S. Commission on National Security/21st Century, *Road Map for National Security*.

¹²⁶ Klein, *The Bully Society*.

to confound first responders and frighten the public.¹²⁷ The media irresponsibly classifies school shootings within a discourse of fear and suggests they are a threat to the safety of all children.¹²⁸

Feelings of fear, helplessness, and shock pervade entire communities when these traumatic events occur, and the unintended economic consequences of these events have not been effectively examined. For example, the horrific images of the slain children and faculty at the Sandy Hook school caused post-traumatic stress in both teachers and responding law enforcement personnel.¹²⁹ Months after the attack some remain on administrative leave while others have taken sabbaticals to help them cope psychologically.¹³⁰

Although the majority of the literature on this topic focuses on the safety of the children, an unsafe workplace directly contributes to the high rate of attrition associated with the teaching profession.¹³¹ For example, many teachers at the Sandy Hook Elementary school perished by unselfishly placing their bodies between the shooter and their young students.

Paradoxically, education is a necessary component for individuals to effectively learn to manage their fears. Due to the anxiety and distress associated with events such as the Sandy Hook massacre, the individual ability to control panic and overreaction is rooted in one's own education.¹³² It is counterintuitive to expect national levels of resilience if policy makers continue to ignore the vulnerabilities in our education system.

¹²⁷ Blair and Martaindale, "United States Active Shooter Events."

¹²⁸ Burns and Crawford, "School Shootings," 147–168.

¹²⁹ Chris Coffey, "Newtown Officers Want Long Term PTSD Coverage," *NBC News Connecticut*, May 3, 2013, <http://www.nbcconnecticut.com/investigations/Newtown-Officers-Want-Long-Term-PTSD-Coverage-205877171.html>.

¹³⁰ Nanci G. Hutson, "From Sandy Hook Tragedy, Teacher Hopes to Sow Seeds of Kindness," *Newstimes*, September 2013, <http://www.newstimes.com/news/article/From-Sandy-Hook-tragedy-teacher-hopes-to-sow-4853400.php>.

¹³¹ Anne Gregory, Dewey Cornell, and Xitao Fan, "Teacher Safety and Authoritative School Climate in High Schools," *American Journal of Education* 118,, no. 4 (2012), 401–425.

¹³² Gary S. Becker and Yona Rubinstein, "Fear and the Response to Terrorism: An Economic Analysis," 2013, Brown University, http://www.econ.brown.edu/fac/yona_rubinstein/Research/Working%20Papers/BR_FEB_2011.pdf.

The correlation between the education enterprise, economic prosperity, and America's national security gives credibility to the premise that school shootings, such as the Sandy Hook massacre, must become a homeland security policy priority. The following chapters will further stress this danger and proffer solutions to decrease vulnerability and reduce risk.

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IV. BUILDING DEFENSE: ATTACK TYPOLOGY AND THE SANDY HOOK MASSACRE

A. HISTORICAL OVERVIEW OF VIOLENT SCHOOL INCIDENTS

The first recorded mass school shooting in the United States occurred at St. Mary's Parochial School in Newburgh, New York on April 9, 1891 when a 70-year-old man armed with a shotgun, opened fire on a group of students in the playground.¹³³ Although none of the children or faculty members were killed, there were numerous injuries reported. This shocking attack was atypical for the time period as the majority of incidents involved students assaulting other students; however, it served as a predecessor to today's instances of violence directed at schoolchildren.

From 1979–2011 there were 191 school shootings killing 170 students and 110 teachers; at least 397 students and 75 adults were also wounded in these attacks.¹³⁴ Additionally, the data reveals that 95 percent of the suspects are males and 25 percent are adults.¹³⁵ This information also includes data from shootings on college campuses, which is outside of the scope of this project but is offered to provide context.

Violence in the educational setting is hardly a new phenomenon and most of the chronicled attacks are characterized as peer hostility.¹³⁶ As education became more formalized, a greater focus has been placed on school violence. The administration of President James Carter was responsible for the elevation of education to a cabinet level department within the federal government.¹³⁷ One of the missions of the newly formed Department of Education was to “identify major issues in education and focus national attention on them.”¹³⁸ Soon afterward, school districts were inundated with surveys

¹³³ K12 Academic, “History of School Shootings in the United States,” K12 Academic, <http://www.k12academics.com/school-shootings/history-school-shootings-united-states#.UkiMpGj3DR0>.

¹³⁴ Klein, *The Bully Society*.

¹³⁵ *Ibid.*

¹³⁶ Austin, “Lessons Learned from the Shootings at Columbine High School.”

¹³⁷ Federal Education Policy History, “Department of Education Organization Act, 1979,” Wordpress, <http://federaleducationpolicy.wordpress.com/2011/04/15/department-of-education-organization-act-1979/>.

¹³⁸ U.S. Department of Education, “What we Do,” <http://www2.ed.gov/about/what-we-do.html>

attempting to accurately assess school safety.¹³⁹ This method of analysis was widely criticized due to its lack of standardization, and it produced an inaccurate final assessment of the threat of violence commonly found in schools.¹⁴⁰

Incidents of school shootings, before the early 1990s, were often linked to drug and gang activity and frequently affected only urban school districts.¹⁴¹ Administrations countered this violence with metal detection equipment and the presence of armed law enforcement officers. These tactical responses did not reduce the violence but simply moved the issue off of school property.¹⁴² The degrading security situation and its notoriety in the media created sufficient public anxiety leading to several national legislative initiatives. The realization that schools with their inherent vulnerabilities were becoming dangerous places is exhibited in laws such as the Safe and Drug-Free Schools Act of 1986 and the Gun-Free School Zones Act of 1990.¹⁴³

The migration of school shootings from urban to rural school districts has significantly affected the intensity of the issue. These events were no longer considered linked to the gang and drug violence, which is commonly associated with inner city schools.¹⁴⁴ The impact of a school shooting in suburban and rural settings transcended the primary victims and adversely affected entire communities.¹⁴⁵ According to Norris, “Community members resent the media intrusion, the sense that they are being blamed for the violence, and the convergence of outsiders.”¹⁴⁶ Additionally, the national media’s

¹³⁹ Dewey G. Cornell and Matthew J. Mayer, “Why do School Order and Safety Matter?” *Educational Researcher* 39, no. 1 (2010), 7–15.

¹⁴⁰ Ibid.

¹⁴¹ Rachel Kalish and Michael Kimmel, “Suicide by Mass Murder: Masculinity, Aggrieved Entitlement, and Rampage School Shootings,” *Health Sociology Review* 19, no. 4 (2010), 451–464.

¹⁴² Ibid.

¹⁴³ Cornell and Mayer, “Why do School Order and Safety Matter?,” 7–15.

¹⁴⁴ Ferguson, Coulson, and Barnett, “Psychological Profiles of School Shooters.”

¹⁴⁵ De Avila, “Sandy Hook Sees Rebound.”

¹⁴⁶ Norris, “Impact of Mass Shootings on Survivors, Families, and Communities.”

response to the frequency of school shootings that occurred in the 1990s caused significant public fear suggesting schools were no longer safe places for children.¹⁴⁷

National attention on school shootings has also generated significant academic interest. The increased angst in communities initiated a greater focus on preventing the violence. Social scientists and academics engaged the problem hoping to identify the root cause.¹⁴⁸ The expanding interest in this field of study has been noteworthy and challenges the notion that these attacks are low risk events. In an article in *Educational Researcher*, it states, “A search of peer-reviewed journals restricted to the term school violence identified 3 articles in the 1970s, 10 in the 1980s, 84 in the 1990s, and 443 since 2000.”¹⁴⁹ In addition, recent search of school violence utilizing the Internet search engine Google Scholar identified more than two million published articles.¹⁵⁰

The landmark school shooting occurred on April 20, 1999 when two students executed a murderous attack on their high school, Columbine High School, in Littleton, Colorado (CO). This mass murder claimed the lives of 14 students and a teacher and injured numerous others.¹⁵¹ The two suspects committed suicide prior to their capture, but their heinous act and the national attention that followed created an extraordinary level of fear.¹⁵² Afterwards, President Clinton directed the United States Secret Service and the Department of Education to collaborate on a project examining the causation of school violence. This published report provided school administrators and law enforcement leadership with strategies for mitigating future attacks.¹⁵³ The attack on Columbine

High

¹⁴⁷ Michael Rocque, “Exploring School Rampage Shootings: Research, Theory, and Policy,” *The Social Science Journal* 49 (2012).

¹⁴⁸ Randy Borum, Dewey G. Cornell, William Modzeleski, and Shane R. Jimerson, “What can be done about School Shootings? A Review of the Evidence,” *Educational Researcher* 39,, no. 1 (2010), 27–37.

¹⁴⁹ Cornell and Mayer, “Why do School Order and Safety Matter?,” 7–15.

¹⁵⁰ Ibid.

¹⁵¹ Austin, “Lessons Learned from the Shootings at Columbine High School.”

¹⁵² Altheide, “The Columbine Shootings and the Discourse of Fear.”

¹⁵³ U.S. Secret Service and U.S. Department of Education, *The Final Report*.

School was not the first mass school shooting in the United States, but it was the most important in shaping the national narrative about school violence, until the attack on the Sandy Hook Elementary school occurred.¹⁵⁴

B. TYPOLOGY OF ATTACKERS AND THE HOSTILE INTRUDER

Understanding an adversary and his motivation is essential to designing and implementing defensive strategies to counter his tactics. Available historical data has assisted social scientists with the research needed to better understand these attacks and help define the attackers. Social scientist Glenn Muschert defines school attackers utilizing five different typologies: rampage shootings, mass shootings, terrorist attacks, targeted shootings, and government shootings.¹⁵⁵ The primary commonality in his research on these typologies is that the evaluated incidences occurred at a school. In addition, the research on this topic reveals that mass shootings and terrorist attacks often require hostile intrusion into the perimeter of the school prior to the assailant committing the violence. Individuals that perform rampage and targeted shootings often have authorized access to their target location. The following section offers key elements of the four common typologies to include the condition of the perpetrator, his access to the school, and whether the victims were specifically targeted or selected for symbolic reasons.¹⁵⁶ The identity of the shooters in the following examples will not be provided. In addition, the government shootings classification will not be addressed in this thesis.

1. Rampage Shootings

Rampage shootings have multiple victims and lack specific targeting. The perpetrator is often a member of the educational community, such as a student or employee. The motive for attacking the school is largely symbolic and is designed as an attempt to attack the whole community.¹⁵⁷ In addition, there is a revenge component with

¹⁵⁴ Altheide, "The Columbine Shootings and the Discourse of Fear."

¹⁵⁵ Muschert, *Research in School Shootings*, 60–80.

¹⁵⁶ Ibid.

¹⁵⁷ Ibid.

these types of attacks wherein the shooter attempts to attain power through violence of action.¹⁵⁸ These attackers often perceive an injustice and feel compelled to act. Many rampage shootings occur in suburban or rural school districts, which often lack the resources commonly found in more urban settings.

The Columbine High School massacre is an example of a rampage shooting. The two attackers were both members of the high school senior class, and they planned the massacre for more than a year.¹⁵⁹ Their intention was to utilize improvised explosive devices to cause as many casualties as possible. The faulty devices forced the two killers to alter their strategy and utilize firearms and shotguns during the assault instead.¹⁶⁰ They randomly executed several classmates and a faculty member before they eventually committed suicide.¹⁶¹ These two killers are not considered hostile intruders due to their enrollment at the institution at the time of the attack.

2. Mass Murder

Mass murder requires that three or more victims be killed during a single episode at approximately the same time and in the same location.¹⁶² This classification of killer is generally an adult male with no affiliation to the selected school. The motivation for the attack is often to gain power or exact revenge and the selection of the targeted school is due to the symbolic significance of the institution.¹⁶³

Mass murderers distinguish themselves from other killers by meticulously planning their operation.¹⁶⁴ They are prepared with a powerful arsenal of weapons and ammunition. Furthermore, they perform target surveillance and execute their attacks

¹⁵⁸ Rocque, "Exploring School Rampage Shootings."

¹⁵⁹ Edward Welch, "Preventing School Shootings: A Public Health Approach to Gun Violence" (master's thesis, Naval Postgraduate School, 2013).

¹⁶⁰ Austin, "Lessons Learned from the Shootings at Columbine High School."

¹⁶¹ Altheide, "The Columbine Shootings and the Discourse of Fear."

¹⁶² Michael E. Buerger and Geoffrey E. Buerger, "Those Terrible First Few Minutes: Revisiting Active-Shooter Protocols for Schools," *FBI Law Enforcement Bulletin*, September 2010, Federal Bureau of Investigation, <http://www.fbi.gov/stats-services/publications/law-enforcement-bulletin/September-2010/shooting-feature>.

¹⁶³ Muschert, *Research in School Shootings*, 60–80.

¹⁶⁴ Kalish and Kimmel, "Suicide by Mass Murder," 451–464.

during the daytime, and they do not seek to evade arrest.¹⁶⁵ Many mass murderers are prepared to die during the event as a result of suicide or being killed by responding law enforcement.

One of the most infamous examples of mass murder in an educational setting occurred on May 18, 1927, at the Bath Consolidated School in Bath, Michigan. This attack was the worst mass murder attack in the history of the United States until the Oklahoma City bombing in 1995.¹⁶⁶ The adult perpetrator, upset about an increase in his taxes and his wife's declining health, opted to take revenge against the town. He planned his malicious attack over many months, systematically hiding dynamite in the basement of the school to ensure maximum death and destruction. Prior to executing his plan, he murdered his wife, set his home on fire, then drove to the school and killed 39 children.¹⁶⁷

3. Terrorist Attacks

Terrorists attack in advancement of their groups' political or ideological agenda.¹⁶⁸ Schools provide an opportunity to attack powerfully symbolic targets that are chiefly defenseless. Our nation's schools are practical targets for terrorist attacks primarily because they accommodate children in large numbers and operate on predictable schedules making the execution of an attack fairly simple.¹⁶⁹ Terrorists do not have to kill large numbers of young children to achieve their objectives and spread their doctrine. Additionally, terrorists have witnessed the impact of school shootings in America and realize the fear and intense media coverage that follows.¹⁷⁰

¹⁶⁵ Knoll, "Mass Murder: Causes, Classification, and Prevention."

¹⁶⁶ National Counterterrorism Center, "A Fact Sheet from the Worldwide Incidents Team," October 8, 2007, Federal Bureau of Investigation, <http://www.fbiic.gov/public/2008/sept/NCTC%20Did%20you%20know%20the%20first%20suicide%20car%20bombing%20took%20place%20in%20Bath,%20Michigan%20in%201927.pdf>.

¹⁶⁷ Ibid.

¹⁶⁸ Mark A Sauter and James Jay Carafano, *Homeland Security: A Complete Guide to Understanding, Preventing, and Surviving Terrorism* (New York: McGraw-Hill Companies, Inc., 2005).

¹⁶⁹ Dube, "Rhode Island School Terrorist."

¹⁷⁰ Dorn and Dorn, *Innocent Targets*.

Alternatively, a terrorist organization that intentionally victimizes schoolchildren runs the risk of alienating the people, groups, and governments that provide them meaningful support as well as accelerating the counterterrorism efforts against them.¹⁷¹ This is what happened after Beslan. A terrible tragedy occurred on the morning of September 1, 2004 in the southern Russian town when approximately 50 heavily armed Chechen terrorists attacked a school, taking more than 1,200 children and adults hostage.¹⁷² The siege continued for three days until a confrontation with Russian Special Forces occurred. An accurate report of casualties is uncertain, but approximately 334 hostages died in the attack, and 188 of them were children.¹⁷³ This cowardly attack was politically motivated and directed at the Russian leadership but the exaggerated media coverage ensured global exposure instilling fear in parents everywhere. A similar attack on an American school resulting in the loss of over 300 lives, many of them children, would temporarily devastate the American way of life and potentially change the educational enterprise forever.¹⁷⁴

4. Targeted Shootings

Targeted shootings are the fourth category in this typology of school attackers. Targeted school shootings occur when the perpetrator selects a target prior to executing the attack.¹⁷⁵ Unlike a rampage shooting, a targeted attack is not a symbolic attack on the entire school or the community at large. The attacker is usually a member or former member of the institution and the target selection is often a function of revenge for mistreatment.¹⁷⁶ The target of this type of attack may be a specific individual or a group of individuals.¹⁷⁷

¹⁷¹ Ibid.

¹⁷² Ibid.

¹⁷³ Gearoid O. Tuathail, "Placing Blame: Making Sense of Beslan," *Political Geography* 28,, no. 1 (2009): 4–15.

¹⁷⁴ Dube, "Rhode Island School Terrorist."

¹⁷⁵ U.S. Secret Service and U.S. Department of Education, *The Final Report*.

¹⁷⁶ Muschert, *Research in School Shootings*, 60–80.

¹⁷⁷ U.S. Secret Service and U.S. Department of Education, *The Final Report*.

An example of a targeted school shooting occurred at the Red Lion Area Junior High School in Red Lion, Pennsylvania on April 24, 2003. The student attacker shot and killed his principal in the cafeteria prior to committing suicide.¹⁷⁸ This homicidal action offered no clear explanation, but the principal was certainly targeted by the shooter. Similar to the example provided about rampage shootings, the access to the victim did not warrant hostile intrusion because of the attacker's enrollment at the school.

C. CASE STUDY: THE SANDY HOOK MASSACRE

The availability of substantive literature on the tragedy at the Sandy Hook Elementary School is limited. Even so, the state of Connecticut recently published an official report regarding this tragic event. As with the other proffered examples of school related murders, the identity of the attacker will not be referenced in this thesis.

The village of Sandy Hook was established early in the eighteenth century and is located within the town of Newtown, Connecticut.¹⁷⁹ According to the town's website, "Newtown is a scenic 'small town' located in Fairfield County in southwestern Connecticut, about sixty miles from New York City."¹⁸⁰ The tranquility of this quaint New England community was changed forever on December 14, 2012 when evil came to Newtown.¹⁸¹

The bloodshed that occurred at Sandy Hook Elementary School at the hands of a lone gunman resulted in the death of 20 children and six adults.¹⁸² The attacker was dressed in tactical clothing and was armed with four weapons: a military style assault

¹⁷⁸ Johanna A. Pro, "York County 14-Year-Old Shoots Principal, Turns Gun on Himself," *Pittsburgh Post-Gazette*, April 25, 2003, <http://old.post-gazette.com/localnews/20030425redlionrp2.asp>.

¹⁷⁹ *Wikipedia*, s.v. "Sandy Hook," http://en.wikipedia.org/wiki/Sandy_Hook,_Connecticut.

¹⁸⁰ Town of Newton, "Welcome to Newtown," Town of Newton, http://www.newtown-ct.gov/Public_Documents/index.

¹⁸¹ George Thomas, "'Evil Visited' Newtown Community; 20 Children Killed," *CBN News*, <http://www.cbn.com/cbnnews/us/2012/December/Official-Gunman-Killed-in-Conn-School-Shooting/>.

¹⁸² James Drylie, *School-Related Shootings: Understanding the Nature and Prevalence of Targeted Violence* (Union, NJ: Kean University Center for History, Politics, and Policy, 2012).

rifle, two semi-automatic handguns, and a shotgun that was recovered later from his vehicle.¹⁸³ After his suicide, he was located in a classroom carrying hundreds of additional rounds of ammunition.¹⁸⁴

The attacker was categorized as a mass murderer consistent with Mushert's definition.¹⁸⁵ The number of fatalities in this specific event significantly contributed to this classification. This type of mass murderer, also referred to as a "psuedocommando," is commonly driven by strong feelings of anger and resentment, and plans his attack meticulously and has a preoccupation with weapons.¹⁸⁶ Because the attacker committed suicide and is unable to be interviewed, there is no known explanation for this attack. In addition, the global positioning system (GPS) was found at the attacker's residence but its memory did not provide investigative value regarding his utilization of surveillance techniques to assess the vulnerability of his selected target.¹⁸⁷

Ironically, this one story school possessed a perimeter security system designed to control access. The system required all external doors locked at 9:30 every morning, and visitors were required to ring a bell and be visibly identified on a monitor prior to gaining admission.¹⁸⁸ This system was considered elaborate for this small elementary school located in a town with a negligible crime rate.¹⁸⁹ It is unknown if this security system affected the attacker's plan because he gained entry into the school by shooting out the panes of glass adjacent to the front doors.¹⁹⁰

¹⁸³ Stephen J. Sedensky III, *Report of the State's Attorney for the Judicial District of Danbury on the Shootings at Sandy Hook Elementary School and 36 Yogananda Street, Newtown, Connecticut on December 14, 2012* (Danbury, CT: State of Connecticut, Division of Criminal Justice, 2013).

¹⁸⁴ *Search Warrant Application, Affidavit and Return*, March 27, 2013.

¹⁸⁵ *Ibid.*

¹⁸⁶ Knoll, "Mass Murder: Causes, Classification, and Prevention."

¹⁸⁷ Sedensky III, *Report of the State's Attorney*.

¹⁸⁸ George Colli, "Sandy Hook: The First 15 Minutes," <http://www.nbcconnecticut.com/investigations/Sandy-Hook-The-First-15-Minutes-221260161.html>.

¹⁸⁹ Neutral Source, "Sandy Hook Elementary School," Neutral Source, December 24, 2012, <http://neutralsource.org/archives/2575#more-2575>.

¹⁹⁰ Sedensky III, *Report of the State's Attorney*.

In the aftermath of this horrific tragedy, significant scrutiny has been focused on the actions of the first responder community and their adherence to emergency response planning.¹⁹¹ Reports indicate that the initial 911 call reporting gunfire at the school was received at 9:35am. No further information, such as the number of attackers or the physical location of the attacker, was provided. The first police officers arrived at the school at 9:39am but did not immediately enter the building.¹⁹² Instead, responding officers encountered an unknown male running along the exterior of the school, and assumed he was involved in the attack.¹⁹³ This individual turned out to be a frightened parent whose unfortunate actions hindered their response.¹⁹⁴ As additional officers arrived, they formed into small teams, entered the school at 9:44am and located the gunman dead from a self-inflicted wound.¹⁹⁵ The attack on this defenseless school lasted fewer than 11 minutes and claimed the lives of 26 innocent people.¹⁹⁶

Current strategies for addressing the danger posed by an active shooter require officers to group into small teams before entering the threat environment.¹⁹⁷ This tactical procedure was devised after the Columbine attacks and was intended to expedite the law enforcement response—rather than waiting for SWAT officers with tactical proficiencies to arrive. Unfortunately, precious time is wasted waiting for additional personnel to arrive. An additional constraint for responding officers was mitigating the lockdown procedures initiated by the faculty at the school during the commencement of the attack. Lastly, a chaotic scene ensued with numerous police officers, some in plain clothes, self-deploying and arriving at the school with minimal coordination. The apparent lack of command and control and the unfamiliarity with the school's emergency plan intensified the danger in the area.

¹⁹¹ Colli, "Sandy Hook: The First 15 Minutes."

¹⁹² Ibid.

¹⁹³ Sedensky III, *Report of the State's Attorney*.

¹⁹⁴ Ibid.

¹⁹⁵ Colli, "Sandy Hook: The First 15 Minutes."

¹⁹⁶ Sedensky III, *Report of the State's Attorney*.

¹⁹⁷ U.S. Department of Homeland Security, *Active Shooter: How to Respond* (Washington, DC: U.S. Department of Homeland Security, 2008).

V. INNOVATIVE SECURITY STRATEGIES FOR THE EDUCATION ENTERPRISE

A. ASSESSING PRESENT STRATEGIES

School security has existed in our society for approximately 60 years.¹⁹⁸ The aftermath of the brutal attacks that occurred at Columbine High School in 1999 saw the emergence of a school security industry largely supported by fear. Researchers, criminologists, and purported security experts evaluated techniques and strategies with a central focus on quelling peer hostility.¹⁹⁹ As previously reported, the two shooters at Columbine High School were enrolled members of the graduating class, often referred to as being an insider threat, and therefore did not have to penetrate the school's perimeter to commit their atrocious act. Shortly after Columbine and at the direction of the Executive Branch, the Department of Education and the United States Secret Service collaborated on a research project aimed at understanding the violence. The outputs were recommendations for both educators and law enforcement personnel and placed a large focus on the mental health of the student attackers as well as their access to weapons.²⁰⁰ The responsibility for intervention shifted to moderately trained faculty members, while political leadership focused on aggressive anti-bullying legislation. These new strategies and attempts to alter school culture are likely to be useless when being attacked by a hostile intruder.²⁰¹

As the school security industry grew, global events began to shape the narrative.²⁰² Shortly after the terror attack on a school in Beslan, Russia, the Department

¹⁹⁸ National Association of School Resource Officers, *To Protect and Educate: The School Resource Officer and the Prevention of Violence in Schools* (Hoover, AL: National Association of School Resource Officers, 2012).

¹⁹⁹ U.S. Secret Service and U.S. Department of Education, *The Final Report*.

²⁰⁰ Ibid.

²⁰¹ Derrick Crews, *Combating Targeted School Violence: Inside & Outside Attackers; A Planning Guide for Creating Prevention and Preparedness Strategies for Educational Facilities preK-12*, 2007, http://media.wix.com/ugd/8d60e3_6f0fdf241b628ee89763eabafcb09782.pdf.

²⁰² Robin Stansbury, "In Wake of School Killings, Quest for Security," *The Courant*, August, 24, 1999, http://articles.courant.com/1999-08-24/news/9908240742_1_metal-detectors-security-system-school-security.

of Education issued a warning to all of the schools in the United States with limited instruction on how to deal with a terror strike on their building.²⁰³ Additional information developed by the United States military revealed that international terrorist had access to floor plans of schools in eight states.²⁰⁴ The sensationalized media reporting of these events created an increased level of anxiety among parents and school administrators. More affluent school districts quickly developed emergency response plans, identified and employed a School Security Director, developed parental communication doctrine, and practiced responding to potential terrorist attacks.²⁰⁵ In contrast, school districts in other cities did not develop plans to respond to attacks on their schools and still do not effectively coordinate with first responders. Instead, they are exceedingly reliant on their local 911 systems.²⁰⁶ This disparity creates inequality among students and the faculty that care for them. Without a universal standard, economic inequality will continue to be a significant variable as affluent school districts will offer safer learning environments and more secure workplaces. This dynamic may serve to unfairly influence the quality of education in economically disadvantaged areas. Additionally, schools in rural settings may be unfairly deprived by delayed law enforcement response times.²⁰⁷

The federal government has allocated considerable financial resources to state governments utilizing grant programs from the Department of Homeland Security, the Department of Education, and the Department of Justice. Grant programs for security related expenditures require school administrators to complete a vulnerability assessment of their school before applying for the requisite funding.²⁰⁸ Although the vulnerability assessment process promoted by DHS is straightforward, many school administrators fail

²⁰³ National School Safety Center, *Safeguarding Schools against Terror*.

²⁰⁴ Ben Feller, "U.S. School Plans found on Computer Disk in Iraq," *The Spokesman-Review*, October 8, 2004, <http://www.spokesman.com/stories/2004/oct/08/us-school-plans-found-on-computer-disk-in-iraq/>.

²⁰⁵ Allison Phinney, *Preparedness in America's Schools: A Comprehensive Look at Terrorism Preparedness in America's Twenty Largest School Districts* (New York: America Prepared Campaign, Inc., 2004).

²⁰⁶ Ibid.

²⁰⁷ *School Safety in the 21st Century: Adapting to New Security Challenges Post 9-11*.

²⁰⁸ U.S. Department of Education, *A Guide to School Vulnerability Assessments*.

to take the initiative and opt out of the process entirely.²⁰⁹ Frustrated with the expiration policy associated with grant funding, some school districts decline federal assistance.²¹⁰

Additionally, there are other forms of assistance offered by the federal government. For example, the federal government offers assistance through the publication of pamphlets and best practice guides. These booklets are effective crisis management tools but fail to address the security components of deterrence, prevention, and protection.²¹¹ This section will evaluate the present strategies employed in our nation's schools through the lens of efficiency, equality, and fairness.

1. School Resource Officers

The School Resource Officer (SRO) program was initiated in 1953 and largely remains the bedrock of school security today.²¹² Initiatives pursued after a widely reported violent act at a school often fuel many of the decisions made to utilize this program. These officers are tasked with providing security and crime prevention strategies, but they also integrate into the school communities and offer a variety of services, including counseling and mentoring the student body.²¹³ In many cases, the SRO serves as part of the school leadership team and assists the school in crisis planning and personalizing the district's emergency management plan to that school.²¹⁴ Many assist in training faculty and conducting school lockdown drills. The most important SRO function is to build trusting relationships with the students, which is vital in mitigating peer hostility.²¹⁵

²⁰⁹ Associated Press, "Newtown Parents Seek More."

²¹⁰ Associated Press, "DeSoto Schools Decline Grants for School Officers," *Sun Herald*, October 25, 2013, <http://www.sunherald.com/2013/10/25/5058776/desoto-schools-decline-grants.html>.

²¹¹ Elaine C. Kamarck, *Applying 21st-Century Government to the Challenge of Homeland Security* (Harvard University, Cambridge, MA: John F. Kennedy School of Government, 2002).

²¹² National Association of School Resource Officers, *To Protect and Educate*.

²¹³ Satullo, "Bethlehem Area School District."

²¹⁴ *Protecting Students and Teachers: A Discussion on School Safety. Hearing before the Committee on Education and the Workforce*, 113th Cong. (2013), Government Printing Office, <http://www.gpo.gov/fdsys/pkg/CHRG-113hhrg78990/pdf/CHRG-113hhrg78990.pdf>.

²¹⁵ Ibid.

Many SRO's are sworn law enforcement personnel with years of experience, who are detailed away from normal community policing responsibilities and assigned to the school for a defined period of time.²¹⁶ Conversely, some are retired law enforcement officers and are hired directly by the local school committees. Their employment helps bridge communication gaps between school administrators and local law enforcement and fire service personnel.²¹⁷

The SRO program has been scrutinized for its cost benefit to school communities. On average, employing these officers costs a community approximately \$80,000 per year. As shrinking school budgets require reductions in faculty positions, many taxpayers question the necessity of the SRO position.²¹⁸ Additionally, critics decry arrests made by SROs for minor criminal offenses on school grounds and the unnecessary introduction of students to the juvenile justice system.²¹⁹

An examination of historical funding methods revealed the Department of Justice COPS program as the primary funding source for this program.²²⁰ The proliferation of this grant program in 2000 was done largely in response to the public fear generated by the incident at Columbine High School. Of note, Columbine High School had a SRO assigned, and he exchanged gunfire with the assailants but was unable to mitigate the attack.²²¹ Congressional leadership employed a similar strategy in response to the tragedy at the Sandy Hook Elementary School last year and appropriated \$45 million for the hiring of school resource officers.²²²

Because students perpetrate most school shootings in this country, the majority of SROs are deployed to middle schools and high schools, but many elementary schools are

²¹⁶ National Association of School Resource Officers, *To Protect and Educate*.

²¹⁷ Ibid.

²¹⁸ Myrstol, "Public Perceptions."

²¹⁹ James Swift, "School Resource Officers: A Topic of Hot Debate, Even Prior to Sandy Hook," January 18, 2013, Juvenile Justice Information Exchange, <http://jjie.org/school-resource-officers-topic-of-hot-debate-even-prior-sandy-hook/>.

²²⁰ National Association of School Resource Officers, *To Protect and Educate*.

²²¹ Austin, "Lessons Learned from the Shootings at Columbine High School."

²²² Chumley, "Obama Shifts \$45."

left unprotected.²²³ Additionally, many officers are responsible for multiple school buildings, further limiting their effectiveness.²²⁴ Lastly, some SROs are unarmed and more assimilated to the faculty than the law enforcement community.

These individuals may be helpful with security preparation but clearly lack the means to defend against an armed intruder. Furthermore, there is no available research regarding the effectiveness of the SRO program in defending students against an armed attack similar to the circumstances in Newtown, Connecticut last year. Policymakers should consider the threat posed by these heavily armed “psuedocommando’s” when evaluating the composition of a single component security plan.

The costs associated with placing an armed SRO in each of the 132,000 public and private school buildings in the United States would result in an annual fiscal expenditure of \$12.8 billion.²²⁵ This plan would cost between \$181 and \$413 per student, the cost is “between 1.4% and 3.3% of total elementary and secondary school revenues” from all available sources.²²⁶ These annual expenses are staggering when compared to the installation of perimeter security systems with components such as fencing, bollards, ballistic glass, and CCTV that have marginal recurring costs.

The previous analysis describing the typology of school shooters placed an emphasis on pre-attack surveillance. The overt presence of a uniformed SRO is politically appealing to many stakeholders and may even serve to deter a potential attack. Unfortunately, it is also possible that the attacker would plan to eliminate the SRO prior to the commencement of his attack on the school.²²⁷

The evaluation of the SRO program suggests its integration into a multi-faceted security plan would maximize value to the school district and its constituents. The SRO program has been in existence for approximately 60 years, and school administrators are

²²³ Myrstol, “Public Perceptions.”

²²⁴ Swift, “School Resource Officers.”

²²⁵ Edward W. Hill, *The Cost of Arming Schools: The Price of Stopping a Bad Guy with a Gun* (Cleveland, OH: College of Urban Affairs, Cleveland State University, 2013).

²²⁶ Ibid.

²²⁷ U.S. Secret Service and U.S. Department of Education, *The Final Report*.

largely supportive due to the program's simple implementation. However, little is known about the effectiveness of this program, and there is little available data evaluating the ability of SRO programs to improve school safety.²²⁸

2. Arming Teachers

The notion of arming teachers and expecting them to engage an active shooter gained national attention in the aftermath of the Sandy Hook shooting. School districts cannot mandate teachers to carry weapons but many agreed to allow such a practice.²²⁹

An evaluation of this program demonstrates considerable associated problems. Statistical analysis of school shootings from 1979–2008 demonstrates that students enrolled in schools commit 75 percent of school shootings.²³⁰ The notion that a teacher would act tactically to neutralize a homicidal student has significant aftereffects for the school community. Educators are expected to provide an atmosphere for creativity and learning while teaching conflict resolution devoid of violence.²³¹ Tasking them with security objectives, including authorizing deadly force, contradicts this claim and interjects considerable liability.²³²

Additionally, teachers designated as armed security personnel will bear the burden of retaining custody of their weapon at all times. If forced to leave their classrooms to engage an active shooter there will be significant unintended consequences. The lack of tactical training and situational awareness adjoined with leaving students

²²⁸ Myrstol, "Public Perceptions."

²²⁹ M. Alex Johnson, "Guns Already Allowed in Schools with Little Restriction in Many States," *NBC News*, January 14, 2013, http://investigations.nbcnews.com/_news/2013/01/14/16468754-guns-already-allowed-in-schools-with-little-restriction-in-many-states.

²³⁰ Klein, *The Bully Society*.

²³¹ David Beem, "Back to School: Lock and Load," *The Huffington Post*, August 16, 2013, http://www.huffingtonpost.com/david-beem/back-to-school_b_3762195.html.

²³² National School Safety and Security Services, "Arming Teachers and School Staff with Guns," School Security, http://www.schoolsecurity.org/trends/arming_teachers.html.

unattended during an emergency is wrought with problems.²³³ Furthermore, responding law enforcement officers may mistake the armed teacher for the attacker adding confusion to a chaotic situation.

These two options encompass the status quo in school security, and some schools do not even have these options available. This dimension of security offers a “response only” strategy. Schools with assigned SROs have a measured level of protection that will react to hostile aggression. Efforts to deter the intruder and prevent him from executing his violent plans are deficient. Physical security practices designed and implemented to secure an established perimeter would significantly assist the SRO program and provide a layered approach to school security.

3. Routine Activities Theory

Criminologists often examine violent criminal behavior by utilizing the “routine activities theory.” This theory tenders that in order for a violent incident to occur, there has to be a confluence of three conditions:

- The presence of a motivated attacker
- The availability of a suitable target
- The lack of capable guardians

The theory asserts that if one of the conditions is removed, the vulnerability and subsequent victimization is significantly minimized.²³⁴ The routine activities theory can also be utilized in examining school shootings.

A closer examination of the three variables as well as historical information on school shootings validate the claim that school shooters are motivated attackers.²³⁵ The intensity and randomness of the attacks suggest this condition cannot be removed.

²³³ James McKinley, “In Texas School, Teachers Carry Books and Guns,” *The New York Times*, August 28, 2008.

²³⁴ Ronald V. Clarke and John E. Eck, *Crime Analysis for Problem Solvers: In 60 Small Steps* (Washington, DC: United States Department of Justice, 2009).

²³⁵ Muschert, *Research in School Shootings*, 60–80.

Furthermore, the theory states that the motivation of the shooter is inconsequential compared to his access to the target and the inability of something or someone to stop him.²³⁶

Schools and the children who attend them are often targeted due to their symbolic status; therefore, an opportunity to remove this condition from the theory does not exist.²³⁷ The “lack of capable guardians” is the only condition that can be manipulated to minimize vulnerability. Capable guardians can be persons or security measures designed to deter or defeat the attacker.²³⁸ According to the routine activities theory, once capable guardianship has been established, the associated vulnerability is reduced and the security of the school is improved.²³⁹ The application of guardianship is an exercise in risk management that has no metrics. The most important facet of the theory is the capability of the guardian. The Sandy Hook Elementary School employed an automated access control system designed to reduce risk and establish a level of guardianship and this system was defeated. Additionally, the Columbine High School employed a SRO as a capable guardian, and he was unable to mitigate the attack.

This research project examines the application of security methods currently employed in many schools throughout the country. Most of the practices are reactionary and insufficient. This research project’s evaluative scrutiny identifies both strengths and weaknesses in these methodologies and ultimately reasons for a layered approach emphasizing interdependent perimeter defenses. The consistency in the application of school security procedures is necessary to ensure a level of equality for all students and faculty members.

²³⁶ Clarke and Eck, *Crime Analysis for Problem Solvers*.

²³⁷ Muschert, *Research in School Shootings*, 60–80.

²³⁸ Clarke and Eck, *Crime Analysis for Problem Solvers*.

²³⁹ Ibid.

B. ALTERNATIVE OPTIONS—PERIMETER DEFENSE

School buildings, like most venues are distinct in design and construction prohibiting a universally implemented security practice.²⁴⁰ However, most schools have a perimeter that can be defined and defended. Establishing this perimeter and understanding the value of its defense will help school administrators with their security planning. Perimeter based defenses can be a very valuable part of an overall interdependent security system.

Research on violent events similar to the attack on the Sandy Hook Elementary School reveals that most attackers have limited social networks and therefore do not warn anyone of their plans.²⁴¹ Additionally, once their murderous attack is initiated, it lasts for an average of 12 minutes.²⁴² Without perimeter security components implemented to delay this attack, victims are forced to wait until responding law enforcement officers arrive at the venue.

The most tactical venue security strategies involve the confluence of components and elements providing the protected venue with overlapping and redundant layers of security. The components are considered the equipment, procedures, and processes that defend the protected venue while the elements are the layers of security designed to harden the structure.²⁴³ Each layer is an element of security dependent on the implemented components and together they comprise the “perimeter security system.” This terminology refers to:

...the system of people, technologies, geophysical features, processes and operations employed to secure a particular security interest or potential target from unauthorized access, particularly premeditated attacks intended to injure, damage, destroy, or impede the normal operations of the security interest.²⁴⁴

²⁴⁰ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

²⁴¹ U.S. Department of Homeland Security, *Active Shooter*.

²⁴² Buerger and Buerger, “Those Terrible First Few Minutes.”

²⁴³ Shuki Einstein and Don Philpott, *The Integrated Physical Security Handbook: Protecting America One Facility at a Time* (Longboat Key, FL: Government Training, Inc., 2008).

²⁴⁴ ANSI Homeland Security Standards Panel, *Perimeter Security Standardization: A Workshop Report* (Washington, DC: American National Standards Institute, 2007).

Perimeter defensive strategies are found in numerous organizations where risk to a particular place of interest is present. Effective systems follow a security continuum designed to deter, detect, assess, delay, respond, and deny access to a hostile intruder.²⁴⁵ Modification of this perimeter security system model is easily attainable predicated on the protected venue and its existing characteristics. A perimeter security system implemented at a school will serve to deter, detect, delay, and mitigate the consequences of an attack by a hostile intruder and will be much different from a system intended to also capture the attacker.²⁴⁶ The goal of a perimeter security strategy for schools is to significantly impact the mechanics of an attack allowing for armed, trained law enforcement interdiction.

The element of deterrence is the ability of a security system “to cause a potential attacker to perceive that the risk of failure is greater than that which they find acceptable, resulting in a determination that an attack is not worth the risk.”²⁴⁷ The typology of the attacker and his fascination with his selected target can adversely impact the effectiveness of this element. Risks posed by deterrence techniques may not dissuade terrorism suspects and mass murderers.²⁴⁸ The element of detection is critical to a perimeter security system. According to a DHS publication, “Detection refers to the ability to identify potential attacks or precursors to an attack and to communicate that information, as appropriate.”²⁴⁹ This identification needs to occur at the onset of the attack to achieve success. Lastly, the element of denial relies on the physical obstacles employed to thwart an attack. This element is largely reactionary and serves to oppose or

²⁴⁵ Headquarters, Department of the Army, *Physical Security FM 3-19.30* (Washington, DC: Headquarters, Department of the Army, 2001).

²⁴⁶ ANSI Homeland Security Standards Panel, *Perimeter Security Standardization*.

²⁴⁷ Department of Homeland Security, *Risk-Based Performance Standards Guidance: Chemical Facility Anti-Terrorism Standards*, May 2007).

²⁴⁸ Muschert, *Research in School Shootings*, 60–80.

²⁴⁹ Department of Homeland Security, *Risk-Based Performance Standards Guidance: Chemical Facility Anti-Terrorism Standards*.

negate the effects of a hostile intrusion while providing time for responding security forces and essential communication within the venue.²⁵⁰

It is crucial to recognize that flexibility is an integral part of designing a school security plan. Differences in architectural design and geographical location will dramatically impact strategic decision making. For example, schools in urban environments may operate in congested areas and will be unable to establish stout perimeters.²⁵¹

Achieving reasonable balance in security planning is imperative as there is no benefit in implementing draconian measures so restrictive that the school cannot function normally or that the students and faculty feel threatened by plan.²⁵² Research shows that schools require a positive climate to help educators meet key goals, including school performance and student achievement.²⁵³ Overt security procedures that are impulsively employed are likely to have an adverse effect of this requisite climate. The longevity of the SRO program illustrates the need for a deliberate assimilation into the educational environment. The acceptance of a national school security standard will require considerable support from educators and school administrators. Minimizing the disruption to the school climate will be paramount to gaining their cooperation.

The design and implementation of a perimeter security system for a school will be influenced by the highly random nature of mass casualty shootings, as well as the daily need for convenient access for the achievement of the education mission.²⁵⁴ Additional aspects for consideration include the size of the school and the density of its population.

²⁵⁰ Richard Kibbey, "Understanding Security Basics: A Tutorial on Security Concepts and Technology," *Applied Biosafety* 10, no. 1 (2005), 40–46.

²⁵¹ Einstein and Philpott, *The Integrated Physical Security Handbook*.

²⁵² Ibid.

²⁵³ U.S. Department of Homeland Security and U.S. Department of Education, *Education Facilities Sector*.

²⁵⁴ ANSI Homeland Security Standards Panel (HSSP), *Perimeter Security Standardization: A Workshop Report*.

The objective of a perimeter security system is to achieve a level of sensible and efficient protection by integrating strategic components into the existing environment without disrupting daily operations.²⁵⁵

C. SYSTEM COMPONENTS

A school's perimeter security system should be modeled to defend against hostile intrusion. These types of attacks are highly emotional and create significant panic in the community.²⁵⁶ The characteristics and modes of attack commonly found in assailants committed to mass murder and terrorism should become the basis of the system's functionality.²⁵⁷ Additionally, vulnerability assessments completed at specific venues provide decision makers with the tactical and strategic data necessary for efficient system design.

Components commonly utilized in a perimeter security system include:

- Fencing, bollards, and gates to control pedestrian and vehicular access
- Lighting of vulnerable areas to deter forced entry
- Closed circuit television cameras used to detect pre-attack activity
- Automated access control systems
- Delineated stand-off distances denying unauthorized access
- Locking mechanisms to secure doorways denying unauthorized access
- Ballistic glass to defend against an armed intrusion
- Armed security forces to respond to an attack
- Panic alarms providing instant communication with local law enforcement
- Command, communication and control systems used to manage the system and mitigate the consequence of an attack²⁵⁸

These interdependent components fuse into an effective security system and provide redundant capabilities to reduce a school's vulnerability. Although all of these

²⁵⁵ Einstein and Philpott, *The Integrated Physical Security Handbook*.

²⁵⁶ Burns and Crawford, "School Shootings," 147–168.

²⁵⁷ ANSI Homeland Security Standards Panel, *Perimeter Security Standardization*.

²⁵⁸ Ibid.

mechanisms are not necessary, the chosen components must complement one another and efficiently integrate.²⁵⁹ The School Resource Officer program is an example of a singular component often required to work independently without the benefit of this multi-component system. As stated in an earlier chapter, the effectiveness of the SRO program against an armed attacker is unknown but its utility increases exponentially as part of a larger system.²⁶⁰

The function of a security plan is the protection of certain assets, and in the education enterprise, the assets are people.²⁶¹ As policymakers identify the costs and constraints associated with reducing vulnerabilities to the schools in their communities, they must recognize that an acceptable or tolerable level of risk exists in all security planning. This level of risk assigns a value to an asset and is derived from numerous limiting factors. Some of these factors are:²⁶²

- Resources
- Technological
- Political
- Legal
- Social

These constraints can adversely influence the effectiveness of a perimeter security system. In this context, tolerable risk is the amount of risk a community is willing to accept as long as risk management options are taken to reduce vulnerability.²⁶³ Comparatively, acceptable risk represents the level of risk a community is prepared to accept without employing any risk management options.²⁶⁴ A national standard would

²⁵⁹ Kibbey, *Understanding Security Basics: A Tutorial on Security Concepts and Technology*, 40–46.

²⁶⁰ Myrstol, “Public Perceptions.”

²⁶¹ Einstein and Philpott, *The Integrated Physical Security Handbook*.

²⁶² ANSI Homeland Security Standards Panel, *Perimeter Security Standardization*.

²⁶³ R. Bell, T. Glade & M. Danscheid, “Risks in Defining Acceptable Risk Levels,” *Landslide Risk Management, Supplementary*, 400 (2005): 38–44, <http://homepage.univie.ac.at/thomas.glade/Publications/BellEtAl2005b.pdf>.

²⁶⁴ Ibid.

advocate for a level of tolerable risk, citing the obvious need to protect the education systems greatest asset.

The costs associated with designing and implementing a perimeter security system is comprised mostly of labor and equipment.²⁶⁵ Additional expenses for staff training and system maintenance must also be budgeted. Although schools are unique in design and structure, they have a similar set of vulnerabilities that can be reduced utilizing these techniques.²⁶⁶ These inherent similarities and the need for all children to be equally safe at school frame the narrative for a national standard of protection.

D. COMPARABLE STRATEGIES

Government facilities, financial services, and energy are three of the 16 identified sectors of critical infrastructure in the United States. These protected sectors utilize comparable perimeter security strategies designed to protect against armed, hostile intrusion and attacks on their infrastructure.

1. Government Facilities

Immediately after the 1995 bombing of the Alfred P. Murrah Building in Oklahoma City, the federal government identified significant risk associated with numerous federal facilities. The Executive Branch of government tasked the Department of Justice to develop recommendations for minimum-security standards for federally owned or leased facilities.²⁶⁷ Presently, a Department of Homeland Security representative chairs an interagency security committee responsible for the coordination and development of security standards in all federal facilities. This tasking encompasses approximately 440,000 buildings with unique occupants and access requirements.²⁶⁸ The model utilized to develop a minimum-security standard in federal buildings is highly applicable to the present school security narrative. Perimeter security systems including

²⁶⁵ Tom LaTourrette, David R. Howell, David E. Mosher, and John MacDonald, *Reducing Terrorism Risk at Shopping Centers* (Santa Monica, CA: Rand Corporation, 2006).

²⁶⁶ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

²⁶⁷ Reese and Tong, *Federal Building and Facility Security*.

²⁶⁸ Ibid.

barriers, closed-circuit television cameras, intrusion detection alarms, and an armed response force are found at most federal facilities helping secure both federal employees and the visiting public.

2. Financial Services

In 1968, Congress passed the Bank Protection Act. The intention of this legislation was to “discourage robberies, burglaries and larcenies committed against financial institutions.”²⁶⁹ The act required physical security measures to be implemented and maintained to deter, detect, and defeat would-be criminal networks targeting our local financial institutions.²⁷⁰ The growth of technology and today’s interconnected economy requires the application of minimum-security standards that are designed to protect intellectual information as well as currency systems. Information security strategists defend perimeters of computer networks with the similar elements and virtual components designed to deny, deter, defend, and mitigate consequence.

3. Energy

The North American Electric Reliability Corporation (NERC) executes a mission to ensure the reliability of the Bulk-Power System in North America.²⁷¹ The energy sector and the corporation responsible for its effectiveness apply measures to facilities and functions that are considered critical to the support of the electricity infrastructure servicing North America.²⁷² These facilities depend on perimeter security systems as well as armed guards to mitigate the impact on assets should a physical attack on their facility occur.

²⁶⁹ Office of Thrift Supervision, *Examination Handbook*.

²⁷⁰ Ibid.

²⁷¹ North American Electric Reliability Corporation, “North American Electric Reliability Corporation,” <http://www.nerc.com/Pages/default.aspx>.

²⁷² North American Electric Reliability Corporation, *Security Guideline for the Electricity Sector: Physical Security* (Atlanta, GA: North American Electric Reliability Corporation, 2011).

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VI. OVERCOMING OBJECTIONS TO A NATIONAL STANDARD

A. STANDARDS, STAKEHOLDERS, AND METRICS

The realization of a national standard aimed at the achievement of an enhanced level of security in American schools will be a challenging policy endeavor. Although standardization is common in other areas of education, the establishment of a set of rules governing security practices will require strategic alliances with numerous stakeholders. The effectiveness and efficiency of the standard will need to be assigned discernible metrics and compulsory compliance will be required. Lastly, the policy will require incremental implementation as to not disrupt the academic environment.²⁷³ Standardizing school security will create strategic doctrine that can be consistently iterated to improve safety while also promoting equality and fairness for individual school communities. This proposed national standard should be a collaborative effort and serve as the minimum level of security provided to all schoolchildren.

The standardization of school security will provide the requisite framework for increased synergy between educators and the first responder community. The planning process will act as a formal record, settings goals, and securing commitments.²⁷⁴ Additionally, the achievement of a standard will improve the development and dissemination of best practices.

The protection of students pursuing an education is a significant concern of federal, state, and local government officials.²⁷⁵ Federal legislation, specifically the No Child Left behind Act of 2001, provides instruction to schools regarding the use of federal school safety funding needed to establish plans for keeping schools safe and drug free.²⁷⁶ The lack of a universal standard creates a policy gap between government

²⁷³ ETSI, “What are Standards?” ETSI, <http://www.etsi.org/standards/what-are-standards>.

²⁷⁴ ANSI Homeland Security Standards Panel, *Perimeter Security Standardization*.

²⁷⁵ Gail McCallion and Rebecca R. Skinner, *School and Campus Safety Programs and Requirements in the Elementary and Secondary Education Act and Higher Education Act* (Washington, DC: Congressional Research Service, 2012).

²⁷⁶ U.S. Department of Education, *Why no Child Left behind Will make Schools Safer and Drug Free*, U.S. Department of Education, http://www2.ed.gov/nclb/freedom/safety/keeping_kids_safe.pdf.

factions. State and local education leaders are not achieving the expectation established by this federal statute, and the federal government has limited enforcement options. The establishment of a national security standard will help insure consistency and fairness for all affected stakeholders.

A stakeholder is an individual or group with an interest in the success of an organization.²⁷⁷ The academic environment has numerous stakeholders that will be affected by the development and implementation of this policy. The application of a national security standard to the education enterprise will require strategic alliances with both internal and external stakeholders.

Internal stakeholders operate within the school system on a daily basis and will directly benefit from an appreciable level of security. This group will also be required to address any unintended consequences associated with the proposed strategy. This group includes students, parents, school staff, and, to some extent, school boards.²⁷⁸ Some teachers are resistant to excessive security controls at their schools and are fearful of isolation from the community.²⁷⁹ They appreciate an open, welcoming campus and believe regulated safety will have an adverse effect. It should be noted that data is scarce on the impact of perimeter security systems on student populations. It is also unknown whether the implementation of a national security standard would negatively impact students' perceptions of their own personal safety.²⁸⁰ These two groups are essential to the achievement of this proposal and must be included as part of the strategic planning process.

External stakeholders operate in the education enterprise's margins but are partners needed to sustain the achievement of this proposed standard. The limitations associated with internal stakeholders involve the transitory characteristics of students and

²⁷⁷ Stan Paine and Richard McCann, "Engaging Stakeholders: Including Parents and the Community to Sustain Improved Reading Outcomes," *Sustainability Series*, no 6. (Washington, DC: U.S. Department of Education, 2009).

²⁷⁸ Ibid.

²⁷⁹ Peter Boyd and Greg Vizzini, "Should Schools be More Like Fortresses?" *California Teachers Association* 17,, no. 6.

²⁸⁰ Borum et al., "What can be done about School Shootings?" 27–37.

faculty. The external group has more permanence in the community and includes taxpayers, political leadership, members of the business community, and law enforcement practitioners.²⁸¹

The implementation of national school security standard would immediately improve accountability and provide children with a safer learning environment. Unlike the status quo, various metrics can be applied to assess the performance of a complete perimeter security system or even an individual system component.²⁸²

Examples of possible performance metrics include:

- Effectiveness or functionality
- Efficiency
- Reliability
- Maintainability
- Sustainability
- Flexibility or Adaptability
- Durability
- Resilience
- Affordability

B. STATES' RIGHTS AND INTERGOVERNMENTAL RELATIONS

The implementation of a national school security standard will require significant intergovernmental collaboration. There is no national education system in the United States, and state and local governments are considerably burdened with federal education mandates.²⁸³ The prospect of another mandate for school security is a potential limitation to policy implementation.

Mandates are federal laws passed by the United States Congress with regulations prescribed by federal agencies compelling state and local governments to accomplish

²⁸¹ Paine and McCann, “Engaging Stakeholders.”

²⁸² ANSI Homeland Security Standards Panel, *Perimeter Security Standardization*.

²⁸³ Neil McCluskey, *Downsizing the Federal Government: K-12 Education Subsidies* (Washington, DC: Cato Institute, 2009).

goals of national importance.²⁸⁴ Congressional leadership has used mandates to achieve goals without increasing the federal budget.²⁸⁵

Mandates can be fully funded, partially funded, or unfunded by the federal government. Compliance with unfunded federal mandates strains the annual budgets of state and local governments, occasionally resulting in lost revenue.²⁸⁶ Federal grant programs have been utilized to offset some of the associated costs; however, restricted federal budgets significantly reduced this resource and created an untenable situation for subnational entities.²⁸⁷

The most appropriate regulatory technique for the achievement of a national school security standard would be a partial Pre-emption. This effort would produce the intergovernmental partnerships necessary for policy proposal advancement. The federal government can develop the standards with necessary input from identified stakeholders, and state governments would play an important role providing critical resources, such as staff, legal enforcement authority, and local political legitimacy.²⁸⁸ Without the involvement of state governments, federal officials would be responsible for policy enforcement with a limited staff and inadequate fiscal resources.²⁸⁹ Substantial state involvement also promotes a degree of governmental decentralization due to “the critical role played by states in implementing, and in some cases promulgating, national standards.”²⁹⁰ Lastly, local government involvement is critical for political acceptance and financial assistance. This interdependence of governments is not a perfect strategy primarily because states can opt out of the program and although sanctions such as the

²⁸⁴ Stacy Anderson and Russell Constantine, *Unfunded Mandates* (Cambridge, MA: Harvard Law School, 2005).

²⁸⁵ Adam M. Zaretsky, “A Gift Horse for the States: Federal Mandates,” *The Regional Economist* (April 1993).

²⁸⁶ Anderson and Constantine, *Unfunded Mandates*.

²⁸⁷ Zaretsky, “A Gift Horse for the States.”

²⁸⁸ Paul L. Posner, “The Politics of Preemption: Prospects for the States,” *Political Science and Politics* 38, no. 3 (2005): 371–374.

²⁸⁹ Zaretsky, “A Gift Horse for the States.”

²⁹⁰ Posner, “The Politics of Preemption.”

withholding of federal funding could be imposed, it is an obstruction to achieving a national standard.²⁹¹

C. DISRUPTION OF THE LEARNING ENVIRONMENT

This top-down policy model recognizes that successful implementation will require support from the internal stakeholders, who have continuously voiced their opposition to security measures in schools.²⁹² The primary opponents of school security practices argue that the presence of SRO's and other security components has changed the role of teachers assigning ultimate authority to the security officers.²⁹³ These stakeholders have worked in the education setting for many years and deride the diminished student—teacher relationship. These critics proffer that stringent security produces interpersonal barriers and causes friction within the school community.²⁹⁴ They also believe that security practices alter the schools operating environment and can be counterproductive and undesirable.²⁹⁵

The limitation of the available literature on this specific topic is noteworthy because most of the information addresses interior security practices intended to quell student directed violence. Social controls, such as metal detection equipment; cameras in school hallways, and zero tolerance policies, are not the focus of this proposal, and they will not prevent hostile unauthorized intrusion.²⁹⁶

If implemented incrementally, perimeter security systems will have a much less disruptive effect on the academic environment. These are the same mechanisms stakeholders encounter at airports, banks, and professional sporting events, even Disney

²⁹¹ Ibid.

²⁹² Myrstol, "Public Perceptions."

²⁹³ Shannon Womer Phaneuf, "School Security Practices: Investigating their Consequences on Student Fear, Bonding and School Climate" (PhD diss., University of Maryland).

²⁹⁴ Nance, "School Security Considerations after Newtown."

²⁹⁵ Pedro A. Noguera, "Schools, Prisons, and Social Implications of Punishment: Rethinking Disciplinary Practices," *Theory into Practice* 42,, no. 4 (2003): 341–350.

²⁹⁶ Muschert, *Research in School Shootings*, 60–80.

World.²⁹⁷ The layered components, selected by the decision makers, will not impact a student's opportunity to learn. However, the overt presence of the proposed component driven system will most definitely demonstrate the community's concern about violence and could make students more aware of the threat.²⁹⁸

Incremental implementation of a national school security standard will be much less disruptive and much more cost effective. Achieving the balance necessary to reduce risks, maintain open access for students and faculty, enable proper building function, and conform to aesthetic requirements is vital.²⁹⁹

The evaluation of these security strategies and whether they actually improve the safety of the school or not remains to be determined; however, the achievement of this national standard communicates that America takes the threat of violence in the education enterprise seriously and is actively doing something to combat it.³⁰⁰

D. FINANCIAL CONSIDERATIONS

Designing a perimeter security system that will function as a national standard cannot be a "one size fits all" proposal. The selection and implementation of protective components to achieve a necessary standard of protection at an acceptable cost is critical to the risk management process.³⁰¹ A limitation to implementation is the accompanying costs of this proposal, expected to exceed 20 billion dollars.

Incentive-based programs encourage rapid adoption of a standard. The federal government has previously offered incentives in education and health related programs to increase participation.³⁰² Incentives for expeditious adoption of this security standard would need to address the needs of both external and internal stakeholders. External

²⁹⁷ Dorn and Dorn, *Innocent Targets*.

²⁹⁸ Phaneuf, "School Security Practices."

²⁹⁹ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

³⁰⁰ Phaneuf, "School Security Practices."

³⁰¹ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

³⁰² Bradley M. Allan and Ronald Flyers, Jr., "The Powers and Pitfalls of Education Incentives," paper no 2011-07, September 2011, The Hamilton Project, http://www.hamiltonproject.org/files/downloads_and_links/092011_incentives_fryer_allen_paper2.pdf.

incentives may include reductions on insurance premiums due to the added security. This incentive may help communities reprogram resources to other depleted areas. Internal incentives could be influenced by grants to fund technological equipment that would not otherwise be budgeted.

1. Federal Government

The federal government has a limited but strategic role in the establishment of a national school security standard. National awareness including support from the executive branch is essential for political and social acceptance. Current fiscal constraints and the potential for a lack of consensus for this proposed top-down federal standard could adversely affect subsequent grant allocation and overall support. The research demonstrates an acceptance of top down regulation only after a critical incident has occurred.³⁰³ Affordable federal loans and financing options for state and local governments may help replace traditional grant support and assist the implementation process.³⁰⁴

2. State Government

State governments also have applicable grant programs but alternative-financing options should also be explored.³⁰⁵ As an example, many states maintain state infrastructure banks to provide loans for infrastructure projects.³⁰⁶ Because schools are recognized as critical infrastructure, these funds may be apportioned. Additionally, bond financing is also a possible vehicle to assist with project financing. Governments use bonds to finance large infrastructure projects that would normally be over the limitations of annual budgets.³⁰⁷

³⁰³ White House, “Now is the Time.”

³⁰⁴ Kevin DeGood, *Thinking Outside the Farebox: Creative Approaches to Financing Transit Projects* (Washington, DC: Transportation for America, 2003) .

³⁰⁵ Hill, *The Cost of Arming Schools*.

³⁰⁶ DeGood, *Thinking Outside the Farebox*.

³⁰⁷ Ibid.

Additionally, and a subject for further review, tax increment bonds are a form of revenue that takes advantage of the increased property tax revenues that could result from the school district investment.³⁰⁸ School shootings result in an increase in private school enrollment with parents assuming their children will be safer once removed from the public system.³⁰⁹ It is unknown if the implementation of a national school security standard would serve to increase surrounding land values. If applicable, as the assessed value of land rises and property tax revenues increase, the increase in property taxes is utilized to make payments to the bondholders.³¹⁰ Lastly, citizens can be included in this public policy decision by exercising a democratic procedure known as a referendum. In a binding referendum stakeholders can vote on a measure regarding the allocation of resources and the subsequent impact on the tax levy.³¹¹

3. Local Governments

Local governments are significant partners in this initiative. In 2010, they collected general revenues totaling over \$1.4 trillion, with 60 percent coming from local taxes, fees, and miscellaneous receipts.³¹² Local governments have numerous revenue generating options not available to their state and federal partners. They often use sales tax to supplement a project's revenue strategy. The process requires the legislature to enable a statute providing local jurisdictions with the authority to impose a dedicated sales tax to support the project.³¹³

4. Filling the Gap

An additional innovative option includes the formation of a public-private partnership. A public-private partnership serves as an agreement between a public agency

³⁰⁸ Ibid.

³⁰⁹ Abouk and Adams, "School Shootings and Private School Enrollment."

³¹⁰ DeGood, *Thinking Outside the Farebox*.

³¹¹ Dan Ritsche, *Referenda and Recall: Letting the People Decide* (Wisconsin: Wisconsin Legislative Reference Bureau, February, 2006).

³¹² "State and Local Tax Policy: What are the Sources of Revenue for Local Governments?" Tax Policy Center.

³¹³ DeGood, *Thinking Outside the Farebox*.

and a private sector entity that combine resources to develop a product or service that improves the quality of life for the public.³¹⁴ This approach allows the public sector partner to provide a “sizeable customer base for the private sector to warrant investments of time and money.”³¹⁵

³¹⁴ Thomas Cellucci, *Innovative Public-Private Partnerships: Pathway to Effectively Solving Problems* (Washington, DC: U.S. Department of Homeland Security, 2010).

³¹⁵ *Ibid.*

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VII. RECOMMENDATIONS AND CONCLUSION

A. RESEARCH FINDINGS

1. Universal Threat Recognition

School security has been in existence for 60 years and since 1999, the United States government has spent more than 1 billion dollars on school security efforts.³¹⁶ The expenditures were dedicated to a nationwide school resource officer program. Additionally, 84 percent of approximately 130,000 schools in the United States have written emergency operation plans designed to help protect students and faculty members. This information demonstrates that a narrative already exists in surrounding school shootings.

2. Schools are Considered National Critical Infrastructure

National critical infrastructure is defined as the:

...systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.³¹⁷

In 2006, schools and universities were recognized as CI and a collective focus on protective methodology in the educational environment emerged.

3. Psuedocommando's and Terrorists

The perpetrators of mass shootings and terrorist attacks often require hostile intrusion into the perimeter of a school prior to the assailant committing the violence. The common thread of these two attackers is they meticulously plan their operations and are always heavily armed. The present school security practices, including the overreliance on school resource officers, are inadequately modeled to defend against this attack typology.

³¹⁶ U.S. Department of Justice, "COPS: Community Oriented Policing Services."

³¹⁷ Public Law 107-56, 107th Cong., *Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA Patriot Act) Act of 2001*, 1016 (e).

4. The Status Quo—School Resource Officers and Armed Teachers

School resource officers are law enforcement agents assigned to school districts and tasked with providing security and crime prevention strategies. They also integrate into the school communities offering a variety of services to include counseling and mentoring the student body.³¹⁸ The cost of employing an officer at a school is approximately \$80,000 per year, and many positions are paid for by federal grant monies. These grants average life span is three years, absent renewal, the school district is largely defenseless. Additionally, the concept of arming teachers and expecting them to engage an active shooter gained national attention in the aftermath of the Sandy Hook shooting. School districts cannot mandate teachers to carry weapons but many agreed to allow such a practice.³¹⁹

5. Routine Activities Theory

The theory asserts that that in order for a violent incident to occur, there has to be a confluence of three conditions: the presence of a motivated attacker, the availability of a suitable target, and the lack of capable guardians. The theory asserts that if one of the conditions is removed, the vulnerability and subsequent victimization is significantly minimized.³²⁰ Persons or security measures designed to deter or defeat the attacker can establish capable guardianship at a venue such as a school.³²¹

6. Interdependent Security Systems

The most tactical venue security strategies involve the union of components and elements providing the protected venue with redundant layers of security. The components are considered the equipment, procedures, and processes that defend the protected venue while the elements are the layers of security designed to harden the structure.³²² Each layer is an element of security dependent on the implemented

³¹⁸ Satullo, “Bethlehem Area School District.”

³¹⁹ Johnson, “Guns Already Allowed in Schools.”

³²⁰ Clarke and Eck, *Crime Analysis for Problem Solvers*.

³²¹ Ibid.

³²² Einstein and Philpott, *The Integrated Physical Security Handbook*.

components, and together they comprise the “perimeter security system.” The goal of a perimeter security strategy for schools is to significantly delay the mechanics of an attack allowing for armed, trained law enforcement interdiction.

7. Performance Measurement

The implementation of national school security standard immediately improves accountability, enhances information sharing, and improves communication between educators and first responders. Unlike the status quo, various metrics can be applied to assess the performance of a complete perimeter security system or individual system components. In addition, future iterations can be made based on reviews.

8. Mandates and Partial Pre-emption

Mandates are federal laws passed by the United States Congress and regulations prescribed by federal agencies compelling state and local governments to accomplish goals of national importance.³²³ Mandates can be funded partially or fully by the federal government but most are unfunded burdening state and local budgets. Partial Pre-emptions establish basic federal standards for a program but leave execution to the states if they meet these minimum standards or legislate stricter ones. Effectively, partial Pre-emptions turn the states into regional offices of the federal government by requiring states to carry out the directives of the federal government. Grant monies routinely address the funding issue.

9. Incremental Implementation

Incremental implementation of a national school security standard will be much less disruptive to the academic environment, more cost effective, and more appealing to stakeholders. It is vital to achieve the requisite balance necessary to reduce risks, maintain open access for students and faculty, enable proper building function, and conform to aesthetic requirements.³²⁴

³²³ Anderson and Constantine, *Unfunded Mandates*.

³²⁴ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

10. Public Financing

For successful policy implementation, innovative funding options must be explored. The employment of a public-private partnership would be the logical choice. According to Cellucci:

A public-private partnership is an agreement between a public agency and a private sector entity that combines skills and resources to develop a technology, product and/or service that improves the quality of life for the general public.³²⁵

B. RECOMMENDATIONS

This thesis sought to answer a specific research question: Could a national school security standard make America's education system safer? This thesis has shown that the security of the education enterprise would improve with the achievement of such a standard and the adoption of a system specifically designed to defend a school's perimeter. The research reveals that the threat of violence facing schools emanates from two distinct sources: peer hostility and an unauthorized hostile intruder. The intruder is a meticulous planner, often heavily armed, and intent on mass murder. Reducing the risk from this assailant must be emphasized due to the extreme consequences associated with his actions. This rationale is centered on the egregious characteristics of these adult attackers and their devastating impact their attacks have on communities. Their typologies and tactics can be defeated by a perimeter security system and the foundation of the proposed standard.

The secondary question answered in this thesis addressed the design and implementation of a national standard with a focus on interdependent security components functioning in a fused system that offer schools a redundant level of security. Single components, such as school resource officers, are necessary but are primarily used to respond to an attack in progress. Prevention and protection need to supplant response and recovery in the school security narrative. The implementation of such a system must be done incrementally and with the consensus of key stakeholders.

³²⁵ Cellucci, *Innovative Public-Private Partnerships*.

Lastly, this thesis has examined how state and local communities would implement this policy in fiscally constrained environments. The answer to this question is dependent on the outputs of the necessary vulnerability assessments. No two schools are exactly alike, and differences exist between school districts and local communities. Certain schools may have considerable vulnerabilities and therefore require a more elaborate security system, while other schools may have minimal vulnerability. More clarity regarding resource allocation will be available once all of the assessments are complete.

DHS promotes collaboration and community engagement and both principles will be needed for the successful achievement of this standard. The following recommendations will assist homeland security officials frame a fair, efficient, and effective policy.

- 1. Appoint the Department of Homeland Security as the Sector Specific Agency for the Education Facilities Sub-Sector**

The replacement of the Department of Education as the SSA will assist policymakers with the intrinsic social and political obstacles that will come with policy implementation.³²⁶ Additionally, this strategic maneuver should signal support from the executive branch of the federal government.

- 2. Ensure 100 Percent Compliance with Emergency Operations Planning**

Of all the schools in the country, 84 percent have reported to the Department of Education that they are compliant with this initiative.³²⁷ Although impressive, this percentage needs to improve, as does the amount of situational drills conducted every year. Collaboration between school officials and law enforcement leadership also needs to improve.³²⁸

³²⁶ U.S. Department of Homeland Security and U.S. Department of Education, *Education Facilities Sector*.

³²⁷ White House, “Now is the Time.”

³²⁸ U.S. Government Accountability Office, *Emergency Management*.

3. Every School in the Country Should Identify a Security Director

Ideally, this individual is hired by the school district, is the primary point of contact for all security related matters, and has crisis management experience.³²⁹ If fiscal restraints prohibit the employment of an experienced professional for this task, administrators should identify and empower a member of the faculty. Once identified, this designee will work with DHS security experts to better understand vulnerability and risk management strategies.³³⁰ This individual will serve an important role improving synergy between the school community and the first responder community.

4. Conduct the Requisite Vulnerability Assessments

The risk management process is difficult without the completion of venue-specific vulnerability appraisals.³³¹ Once completed, school district leadership will better understand the areas of concern and the resources required to improve the level of security. The prospect of resource allocation in economically constrained environments will be dependent on accurate appraisals of venue vulnerability.

5. Increase Awareness Regarding School Security

The coldblooded attack on the Sandy Hook Elementary School claimed the lives of 20 innocent children. The effects of this tragedy, similar to domestic terrorist attacks, momentarily gripped the country's attention. Political leadership promised numerous resources and the promotion of greater threat awareness.³³² Unfortunately, the seriousness of the threat was lost in the public's "issue attention cycle." A greater emphasis on risk reduction from the executive branch of the federal government could strongly influence public attitudes and help policymakers overcome social acceptance constraints.

³²⁹ U.S. Department of Education, *Practical Information on Crisis Planning*.

³³⁰ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

³³¹ Dorn and Dorn, *Innocent Targets*.

³³² White House, "Now is the Time."

6. Establish a Minimum-Security Standard for all Schools

The establishment of a national school security standard will help create an effective framework for policy iteration and future information sharing by means of best practices.³³³ Additionally, the achievement of a national standard promotes fairness and equality and ensures that all children and the dedicated faculty that serve them are allowed to thrive in a safe, secure environment.

7. Design Perimeter Security Systems into All New Construction

Similar to the required fire/life safety measures found in all newly constructed school buildings, a perimeter security system based on a vulnerability assessment should also be required by local communities.³³⁴

C. CONCLUSION

Schools are vulnerable to an attack from heavily armed homicidal adults because decision makers focus on resilience and recovery not prevention and mitigation. This research has highlighted the associated risks and established the transformation framework necessary to improve school security. Homeland security officials working collaboratively with academic partners can concentrate on effective perimeter defenses to deny unauthorized access to students all while preserving the essential learning environment.

The establishment of a national standard will help promote social and political acceptance with key stakeholders but the allocation of resources should be a function of state and local governance. This research does not offer an absolute solution to eliminating violent mass shootings at schools, but it helps provide an understanding of the risks that schools face and the detrimental reactive policies of the status quo.

Future research should focus on the financial aspects of achieving a National School Security Standard to include an economic model illustrating the difference between the status quo and the nationwide implementation of perimeter security systems.

³³³ ETSI, *What are Standards?*

³³⁴ Federal Emergency Management Agency, *Primer to Design Safe School Projects*.

Before this can be accomplished, the necessary vulnerability assessments must be completed so that resources can be justly assigned. Additionally, the combination of a referendum regarding perimeter security systems for schools and the notion of tolerable risk should be examined further. Would a safer school system be worth a marginal increase in the local tax levy? Would young families move to communities that would vote for such an increase and if so, would there be a value proposition for security conscious communities?

Additional research can also focus on the issue of unintended consequences. Will the achievement of this national standard shift the risk of mass murder to a school bus or Varsity basketball game? Is shifting the threat somewhere else within the community an acceptable practice?

Understanding we cannot completely reduce risk in a democracy, should not a priority be given to schoolchildren? Children are our future and a key factor for continued national affluence. As a nation with vast intellect and substantial resources, a national commitment must be made to insure that a massacre like the attack on the Sandy Hook Elementary School never happens again.

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